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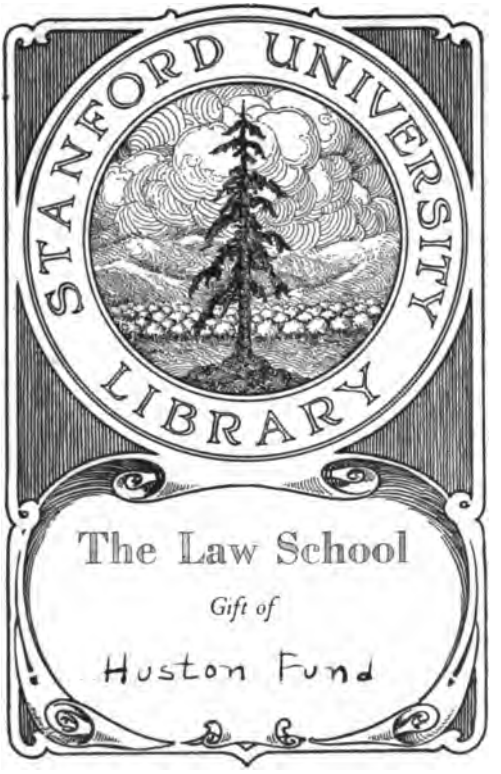
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THE UNSOUND MIND AND THE LAW

A PRESENTATION OF FORENSIC PSYCHIATRY

BY

GEORGE W. JACOBY, M.D.

AUTHOR OF "CHILD TRAINING AS AN EXACT SCIENCE"

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PREFACE

Most English or American books on forensic psychiatry have a distinct tendency to subordinate the medical viewpoints to the juristic ones as the latter find their expression in our prevailing laws and judicial decisions. The extent to which the subject-matter must consequently suffer becomes particularly manifest when the more recent advances in psychiatric medicine are contrasted with the conservatism, or let us rather say stagnation, that exists in English and American laws in the same field.

Wherever the existing law and modern medicine disagree, there is a tendency to give the former a more plausible recognition than it actually deserves, or to assume that the latter, notwithstanding its scientific basis, is at least problematic, and therefore to attempt to fashion it to accord with the juristic mold.

The lack of courage to admit frankly the inadequacies or inequities of the partly antiquated law is defended by the specious plea of "practical social needs." In the borderland cases where doubt exists as to whether a legal or a medical remedy should be applied, the criminal law supposedly meets these "needs" best by committing the anti-social—that is, the insane—elements of the community to prison instead of to a hospital. We will admit without reserve that even the most ideal law cannot fully accord with all the requirements of medical science, for social order demands a more or less categorically incisive legal treatment, which in the individual case may act as a hardship, occasionally even as an injustice. But it is certainly the duty of our lawmakers to prevent such hardship or injustice as far as lies within human power.

The science of medicine must constitute the logical basis for every treatise on juristic psychiatry, for the medical facts alone are stable, even if their scientific recognition may be uncertain and may vary with the lapse of time. Legislation, however, is always subject, and necessarily so, to relatively arbitrary and

often illogical changes. In the nature of things, it should adapt itself to the science of medicine; the contrary procedure is entirely out of the question.

That psychoses do not differ from other diseases, that they are usually conjoined with states of bodily disorder, and, consequently, that insane asylums are nothing other than hospitals adapted to the special requirements of patients suffering from diseases of the brain and nervous system, constitute fundamental truths which must become part of every person's knowledge. Not until these truths are generally recognized will the final prejudice disappear against those who are mentally disturbed and against the asylums for the insane; and only then will the relationship between jurisprudence and psychiatry be of a more intimate and harmonious nature. Meanwhile, it becomes the duty of every neurologist and psychiatrist to contribute his share to the practical extermination of the extraordinary conceptions of mental disorder that conflict so sharply with our present-day knowledge and not infrequently place insuperable obstacles in the way of correct juristic estimation of medico-legal problems affecting the insane. It is this thought that has been my chief incentive in writing the present treatise.

In the first main division of the book I purpose treating of the general relation that jurisprudence bears to psychiatry and more especially to consider, in addition to simulation and dissimulation and the self-accusations of the insane, the various degrees of responsibility and the significance they bear to our civil and criminal procedures.

The second main division will be devoted to psychiatric expertism and will describe the manifestations by means of which the most important psychoses and neuro-psychoses may be recognized. The third part is devoted to a consideration of hypnosis and anomalies of sexual sense, and the fourth and last part will indicate the manner in which written or verbal expert opinions are to be formed and rendered.

In this work I hope to be able to do justice to the requirements of the physician as well as to those of the jurist. It has, however, been far from my purpose to write a book on forensic psychiatry in general, for which reason I have endeavored to limit myself to those questions of juristic psychiatry that may be designated as "borderline."

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THE UNSOUND MIND AND THE LAW

INTRODUCTION

ALL treatises on legal medicine lay stress upon the physician's need of acquainting himself intimately with the relevant laws and their juristic interpretation. While I recognize the value of juristic knowledge on the part of the physician who is called upon for an expert opinion, and that he must understand the principles upon which the law is based so that he may the more easily comply with its demands, I must emphatically maintain the existence of an unavoidable moral obligation on the part of the jurist to equip himself with a proper understanding of the principles underlying the expert opinion of the physician. I can readily understand that a medical expert in his own field may give a faultless opinion, in thorough accord with scientific views, although he may lack a knowledge of the existing laws, but I cannot comprehend how a jurist entirely unfamiliar with the domain of thought that governs medicine and the natural sciences can form a correct opinion regarding questionable states of mental disorder.

Some years ago I called attention to the insufferable contradictions that existed between our so frequently antiquated legal enactments and modern psychiatry. I laid stress upon the possibility that a person who had committed a criminal act while under the bane of a morbid impulse of the will might be legally convicted, because the law, while it accorded an exculpatory value to abnormal intellectual activity, dealt otherwise with disorders that implicated the activity of the will. I need hardly say that if under such conditions the judge insisted upon the letter of the law and turned a deaf ear to all psychiatric reasoning, even the most intimate knowledge of the law could not help the physician in the slightest degree. While it must be admitted that the judge can but apply and enforce the law as it exists, and may not render a decision that is solely in accordance with his moral conviction and with ordinary common sense, all application of existing laws, no matter how inadequate they

may be in themselves, must to a great extent be a question of interpretation. The judge who is conversant with the fundamental principles of psychiatry will necessarily interpret these laws differently from the jurist who disregards the law's spirit and purpose and adheres exclusively to its letter. It should be the endeavor of the judge to prevent injustice, to thwart the punishment of the innocent, and to frustrate the escape of the guilty. The object of the physician who testifies in court should be no different, and it is this common purpose that imposes upon the physician the duty of acquiring adequate juristic knowledge, and upon the jurist the obligation to instruct himself in regard to such facts in medicine and the natural sciences as are of importance in the field we are now considering.

While a physician's testimony concerning injuries to health, or regarding death due to violence, as well as his testimony in mooted sexual matters, may be restricted to the actual facts, his task when testifying concerning doubtful states of mental disease will necessarily be of a more involved nature. After the actual facts in such cases have been ascertained, the question whether the person who has committed the punishable deed is responsible for his act remains to be answered—in other words, it must be determined whether, at the time of commission, his will was free, or whether, in consequence of mental confusion or clouded consciousness, the free exercise of his will was restricted or entirely annulled, so that the inhibitory concepts normally present could not be called into action. Even if the absence of conscious-inhibitory motives could not be assumed, there might still be a question whether, being present, their influence had not been counteracted by an uncontrollable obsession. If this were so, we would be confronted by the existence of a condition in which, notwithstanding his recognition of the wrongfulness and punishability of an act, the individual could not be held responsible, because the act was the product of disordered activity of the will.

Moreover, we must consider that the courts are occasionally misled so as to confound adept simulation with mental disease, or, what is more frequent, to accept skilful dissimulation for mental health. Finally, it is not unusual for the courts to be led astray by the self-accusations of persons who are insane, and

much valuable time may be sacrificed before the incorrectness of the seemingly trustworthy self-accusation can be demonstrated. Should such deceptions or errors not be controverted, the judge may, against his will, be placed in the position of having thwarted the intent of the law, and of punishing an innocent or irresponsible person or freeing a guilty one. Or, where there is no question of a punishable act but solely one of competency in commercial matters, or of the existence of a mental disorder that precludes all free determination, the judge may involuntarily assist a squanderer, an alcoholic, or a morphinist in bringing economic destruction upon his family, or an insane person who is a menace to himself and his surroundings in retaining his freedom.

When a judge does not know that morbid disturbances of mental activity may affect in one instance the perceptual sphere, in another the emotional life, and in still another the will power, when he does not know that, in conformity with scientific views, responsibility may not only be entirely but also partially annulled, he will be inclined to decide the question of the existence of mental disorder in accordance with the principle that a person must be either insane and irresponsible or entirely sane and responsible. Then, if he is to decide a case in which, for instance, the intellect, the power of ideational association and of logical thought, is apparently unimpaired, or in which disorder of the emotion and of the will happens to be undemonstrable, the judge will be but too prone to assume the existence of mental health and to deny an application for the appointment of a guardian, or one for a commitment to an institution. In so doing he may well be governed by the consideration that it is a serious matter to deprive of his liberty a person who has committed no punishable act and who has the appearance of being mentally healthy. Possibly, also, he may be influenced by the knowledge that schemes to rid themselves of an inconvenient member of a family are not infrequently undertaken by relatives and aided by unscrupulous members of the legal and medical professions.

We can see, therefore, that an inexperienced judge, notwithstanding that his intentions may be of the best, may bring about the very reverse of that which he and the law intend. Were the determination of the existence of mental disorder in ques-

tionable instances dependent upon the judge alone, many guilty persons would escape punishment, while many insane and irresponsible ones would suffer undeserved penalties.

It is obvious, therefore, that the judge must be aided by expert advice. The cry that psychiatrists believe it proper to aid guilty persons to escape merited punishment by endeavoring to prove them insane is, of course, unjust. In giving an expert opinion concerning states of doubtful mental disorder, the conscientious psychiatrist, no less than the judge, is governed by an interest in the public welfare, and even when he is unfamiliar with the text of the law, he carries out its intent by determining whether mental integrity, limited responsibility or complete irresponsibility exists. Whether the judge, solicitous of applying the law in accordance with its spirit, will be satisfied with the statement of the psychiatrist and decide accordingly, is quite another question. If, however, the judge renders a decision that is contrary to the physician's conscientious and scientifically correct testimony, the physician certainly must be absolved from all responsibility. Certainly the physician need not endeavor to adapt his expert opinion to the existing laws. Where these laws are the expression of antiquated views which cannot possibly be made to conform with the views of modern psychiatry, any agreement with them could but be specious and sophistical. In my opinion it is more important that the antiquated laws bearing on doubtful mental disorders be so modified that they will conform to the teachings of modern psychiatry.

The physician is bound by the teachings of science, and the crass antagonism between these teachings and the antiquated views of the law that so often manifests itself can but exert a beneficial and modernizing influence upon the interpretation of the laws as they exist. This becomes the more evident when we consider that, after all, it is upon the lay judges (the jury) and not upon the professional judge that the decision of guilt or innocence devolves; and in forming an opinion they as a rule will be governed less by the letter of the law than by ordinary common sense, and, therefore, will be more easily influenced by the arguments of the psychiatric expert. How each individual case may be affected by the interpretation that is given to the law is shown by the fact that, while according to the existing

statutes in certain states, an attempt at suicide is a punishable offense, it is most rarely punished, even in the absence of any suspicion of mental disorder.

I have already indicated that the psychiatrist who gives his expert opinion in accordance with scientific principles, but without considering the wording of the law, deals more fairly with the law than does the judge who decides according to the letter of the law without having any interest in or any understanding of psychiatric knowledge. Why is it that judges are so often led astray by simulants and dissimulants and that the mental condition of an accused person, even when he makes no attempt at voluntary deception, is but infrequently correctly understood by the members of the legal profession? Why is it that psychiatry, which could and should be of so great aid to the jurist, is as yet inadequately appreciated by judges and lawyers?

The answer to these questions is that all laymen—and jurists are laymen in this regard—notwithstanding all efforts to enlighten them, still remain entirely ignorant concerning mental disease and are prejudiced against occupying themselves in any way with the questions it involves. This antipathy, which to some extent has been fostered by the difficulties involved in a study and an understanding of the anatomical, physiological and pathological relations of the brain, is not merely one in theory, but actually extends to the mentally disordered persons themselves, to the insane asylums, to their physicians and attendants. Moreover, strange as it may appear, there are many medical practitioners, otherwise skilful and well informed, who lack all understanding of and often are entirely ignorant of the inferences which psychoses and psycho-neuroses have upon the patient's life and surroundings. That the insane should be regarded in the same way as persons who are physically sick, except that in the one instance the lungs, kidneys, stomach, heart, etc., are implicated, while in the other it is the brain and nervous system that are particularly affected, is a truth which, although constantly taught and reiterated, does not yet seem to be fully understood. Even at the present time there exists among the ignorant masses a belief in demonic possession as a cause of mental disease, even to-day Pharisaic and censorious cavilers look upon such disease as a punishment for a sinful

mode of life; even to-day there are numerous persons who, though vaunting their enlightened intelligence, assume the existence of a spiritual world supposed to be governed by other laws than the laws of nature which govern the material world, and in which, therefore, diseases of the mind supposedly develop independently of the functions of the brain or of the diseases of the body. All of which shows that our present era, often so boastful of its freedom from prejudice, has, as a matter of fact, merely exchanged old prejudices for new ones.

We should look upon every person who is mentally disordered as a fellow being who is sick, as one who has a claim upon our compassion and requires our aid—particularly so because his highest faculties have become clouded or destroyed.

Even if it were the case that careful examinations of the brains of the insane should reveal no disorder of their structure, there could nevertheless be no doubt that gross or minute disturbances of the brain substance, changes of its chemical composition, variations in the circulation of the blood and lymph (congestion, anemia, stasis), nutritional disturbances of the brain or its membranes and its blood vessels, must be held responsible for the causation of alterations in the mental functions, no matter whether these manifest themselves merely as anomalies of emotion, will power or consciousness, or as sense deceptions and delusions. As a matter of fact, however, in a large number of states of mental disorder actual anatomical brain changes may be positively and directly recognized—either with the naked eye or by means of the microscope. This, for instance, is true in arrested brain development, in idiocy and cretinism, in senility and pronounced dementia, in paresis and in certain cases of epilepsy. It is quite probable that the increasing improvement in our technical methods and means of examination ultimately will enable us also to recognize those more minute structural changes of the brain tissue which have until now escaped our notice; and then the mutational relationship existing between brain and mind, physiologically as well as pathologically, will be fully revealed.

It is a fact that there can be no mental activity, normal or abnormal, that is independent of the brain. Likewise, it is a fact that in most instances psychoses are caused by bodily diseases which implicate the brain and nervous system, and purely

psychic injuries unaccompanied by bodily manifestations of disease are of etiological moment only in the most exceptional instances. In this connection we should, however, consider that in those cases in which mental disorder is a sequence of the bodily disease, the bodily disorder has usually passed away and the mental disorder apparently stands alone, having no connection with any organic somatic changes. To a great extent this explains the different points of view maintained by the laity and even by the cultured jurists toward disease of the body and disease of the mind. The former is never regarded without concern and is considered a misfortune deserving sympathy and interest; a psychosis, however, though often dependent upon the very same cause, is usually looked upon as something reprehensible. Although the ordinary mind will comprehend a delirium in a person suffering from pneumonia or typhoid fever and understand its manifestation to be dependent upon the associated bodily disease and the coexisting fever, although everybody will recognize that alcoholism manifested as delirium is the natural result of alcoholic excesses and will in no way be astonished by its occurrence, it is common to misinterpret or not to understand the states of pure mental disorder when they are unassociated with noticeable physical faults, even when their manifestations are similar to those of a delirium or when they have developed from a clearly physical basis.

While no one would think of considering a delirious patient of this type sensible and responsible, it is often believed to be not only possible, but right, to associate and to argue with him as though he were in perfect health. His actions are ascribed to the same motives as those which obtain under similar conditions in normal persons, and he is, therefore, expected to respond to appeals and arguments like a person in mental health. Therefore, it often follows that, because the morbid causality is not recognized in the expressions and actions of the insane, they are not believed to be sick, and their actions are supposed to be the results of obstinacy, craftiness and malevolence; or else recourse is had to the other extreme, and the patient is looked upon as a person totally bereft of intelligence, emotion and will power, as one who is dominated by mysterious forces and who can be compared only with an infant, or even with an animal. This explains the opprobrium which even at present is attached

so frequently to mental disease, and it also explains the numerous errors which lawyers commit when, without any knowledge of fundamental psychiatric principles, they rely essentially upon their natural powers of observation for the estimation of questionable or borderline mental states.

By "questionable" states of mental disorder I mean all those psychic manifestations as to which it is uncertain whether they are the product of normal or abnormal brain activity. *A priori* this can never be decided. The man who possesses histrionic talent and has at his command such thorough skill as Shakespeare must have possessed will perhaps be able to simulate insanity with its physical accompaniments to such perfection that even physicians will be deceived. Hence, when in a court procedure the defendant rolls his eyes, talks confusedly, goes into convulsions, etc., it is well first to think whether it may be a well acted comedy, and only after this possibility can be excluded with certainty, to consider the existence of actual mental disease. On the other hand, it is easy to conceive that a patient who from a psychiatric standpoint is undoubtedly insane may appear to be mentally normal to the jurist. Thus, for instance, it is quite possible that the existence of morbid ideas may not be discovered because they have been purposely concealed. So long as the patient knows it is considered a disgrace to suffer from mental disorder, so long as his over-sensitive mind is obsessed by the fear of maltreatment in asylums, it will be natural for him to rebel against being pronounced mentally sick, especially when he realizes the diagnosis may carry with it a declaration of incompetency, a deprivation of liberty and social ostracism. Naturally he will not recognize that an internment in a sanatorium is for his own good, consequently he will endeavor to suppress those manifestations of mental activity which he knows will be looked upon as morbid, and sometimes he will do this so successfully that the judge will be influenced to decide against the appointment of a guardian or an internment in an institution. Similarly, even where there exists no intent to deceive, the person whose sanity is being investigated may be declared sane by the judge, while the experienced psychiatrist will without difficulty recognize the existence of a morbid state of mental activity which precludes all free determination of the will.

The difficulties surrounding the legal appreciation of doubtful cases of mental disorder are produced not only by simulation and dissimulation, but are in great part due to the existence of mental states occupying the borderline between health and disease, borderline states in which responsibility exists in one direction, while irresponsibility is present in another. Moreover, we must bear in mind the existence of those apparently free intervals which form part of the periods of manic-depressive psychosis, of the prolonged remissions in paresis, and of the periods in epilepsy during which no convulsion occurs. If the jurist possesses no information regarding the previous history of individuals thus afflicted, the impressions he obtains of them will depend entirely upon whether they happen to be in a state of remission or one of relapse. Just as, upon the one hand, not every act of a psychically abnormal individual excludes free determination of the will, so upon the other hand the capability of recognizing right from wrong and the preservation of a knowledge of the punishability of an act do not prove the existence of free determination of the will, because the morbid emotions, ideas and impulses may counteract the power of acting in accordance with that recognition and appreciation. With these facts, of course, the jurist must be conversant.

Physicians and jurists have always been somewhat at variance in regard to the question of responsibility. This diversity of opinion is undoubtedly due to the point of view from which the subject is regarded. The physician who looks upon the mentally disordered individual as a person who is also physically sick, as one whose mentality is implicated in consequence of disturbances of bodily function, and who must be helped by remedying these disorders, will tend to lay greater stress upon the boundary lines of the mental disorder and to give less or no attention to the question of responsibility. The jurist, on the other hand, because his task consists in the recognition of culpability, finds himself obliged to restrict the confines of mental disorder and to demand an establishment of a sharp line of demarcation between health and disease, that is, between those states in which punishment is to be inflicted and those in which the accused is to be considered irresponsible. Undue emphasis upon the one or upon the other point of view must be discountenanced.

Up to the present jurisprudence has started from the premise that delusions constitute the basis of mental disorder. The determining factor has always centered upon the question whether the accused was capable of recognizing the wrongfulness and punishability of his deed. But, as the physician well knows, no delusion ever embraces all the morbid motives that directly or indirectly have occasioned the commission of the deed; moreover, it is precisely those patients who have the finest sense of appreciation of right and wrong that suffer most from morbid obsessions which run counter to their moral principles. On the other hand, it is manifestly unjust to declare a person responsible because his actions are apparently not based upon a delusion. The existence of a delusion is by no means requisite for the annulment of responsibility. A person suffering from acute mania may have killed another solely in consequence of his over-activity and feeling of physical power, and while some delusion may have existed at the same time, it was his lack of self-control and not the delusion which brought about the catastrophe. To prove that this loss of self-control was the product of disease may be one of the most difficult tasks that confront the psychiatrist. No one will deny that an epileptic may commit a crime because he has lost his self-control, for just before and just after a convulsive seizure, or when a psychic wave takes the place of a seizure, his mind, just as his body during a spell, is entirely beyond control of his will. Other states also may lead to imperative acts, which cannot be suppressed either by external influence or by any change in external conditions.

If, then, we ask under what conditions this loss of self-control represents evidence of mental disease, and under what conditions, on the other hand, it should be considered the result of a state that the individual should and could suppress, the reply may be most complex. In certain cases loss of self-control is caused by pure weakness of will power, and a person then must be held responsible if he consciously exposes himself to influences that would annul his self-control. It would be dangerous, however, to admit the correctness of such procedure as a principle, for it is clear that under certain conditions the slightest frailty might place a person in a most difficult situation. This can best be illustrated by a consideration of the different degrees of responsibility in the various stages of alcoholism.

Let us take, for instance, a person who as a result of physical weakness or in consequence of a blow on the head received at some previous time, can no longer tolerate the amount of alcohol that he had been accustomed to take with impunity, and who when in a state of acute alcoholism commits a crime. It could hardly be held that such a person was fully accountable for his acts. On the other hand, if, knowing from experience that he is no longer able to stand even small amounts of alcohol, he persists in drinking and then commits an unlawful act, he must justly be considered responsible even if his intolerance to alcohol be the result of inherited taint or of previous injury. Going still further, let us assume that in consequence of continued alcoholic excesses he gradually becomes mentally disordered and in a state of delirium tremens commits a crime. Under such conditions he can be adjudged only partially responsible. But if the alcohol, instead of producing a delirium, has brought about a chronic insanity or a dementia, and in the persistent mental confusion of such states he comes into conflict with the law, he should not be held responsible for his criminal acts even if at the time of their perpetration he was but slightly or even not at all under the influence of an alcoholic stimulant. This example clearly shows how complex the distinction between responsibility and irresponsibility may become.

An even more difficult task is that of adjudicating cases of so-called impulsive insanity, a state in which a patient loses his self-control and commits an act which he recollects in all its details, but from which he truthfully maintains he was unable to refrain. Undoubtedly such morbid impulses independent of all delusions or illusions do occur. Every psychiatrist has been consulted by patients who have told him that such loss of self-control has at times overwhelmed them like a storm from a clear sky, and they have had to seek some place of safety, to flee from themselves as it were, in order to avoid placing themselves or others in danger. When such morbid impulses do occur in persons who manifest other signs of insanity, the question of diagnosis is a fairly simple one; but when the existence of such imperative states constitutes the sole basis for the diagnosis of mental disease, the difficulty of forming a decision becomes evident. Moreover, the person who has committed a crime may, when apprehended or when he surrenders himself voluntarily,

appear perfectly rational. This is the case especially with epileptics and patients having obsessional impulses. After the emotional outbreak the psychic equilibrium is usually re-established, and it seems as though the paroxysmal discharge has brought about at least a temporary restoration to health. It is then very difficult to make the lay mind understand that these acts which appear to have been carried out with premeditation and entire reflection have been perpetrated in a state of transitory mental disorder. The same considerations that are applicable to murderous onslaught also obtain in regard to suicidal attempts, to sexual crimes and other imperative acts. Often the outbreaks are followed by an immediate amelioration of the mental state, which but too frequently deceives the judge as to the true state of affairs.

Later on we shall have more to say in order to emphasize the need of the jurist being correctly informed concerning the fundamental psychic principles just discussed. But it is also the purpose of this treatise to be of service to the physician who is called upon to give an expert psychiatric opinion in court, and to do so above all by recalling to his memory those considerations which are vitally significant for the forensic estimation of doubtful states of mental disorder.

In the pathogeny, the clinical picture, the prognosis and treatment of mental disease, the jurist is interested only in so far as he may be able, by their aid, to obtain a clear conception of the alteration of the activity of the will which the diseased mentality may have produced. He desires to know whether in the particular case there exists full accountability, partial responsibility or complete abolition of free determination of the will; he desires to know under what circumstances the activity of the intellect and of the will run in parallel lines, under what conditions the capacity for self-control suffices to controvert diseased impulses, or when the latter will be stronger than the corresponding inhibitory concepts. He wants to know to what extent a person's actions will be influenced by delusions, whether it is possible for a person of intelligence to subdue criminal tendencies by an effort of the will and whether moral deficiency is necessarily the outcome of some form of feeble-mindedness. Finally, he would also ask whether the borderline cases of insanity presented for the court's consideration are to be looked

upon as transitory or permanent states, whether they may be subject only to partial improvement or whether complete restitution to health can take place. For the jurist, therefore, everything centers about the question of the extent to which the legal relations of the individual toward the surrounding world are altered by insanity. For, according to law, if a patient is unable to regulate his actions in conformity with intelligent views, protection must be given by relieving him of the legal responsibility ordinarily attached to such acts. Similarly, a patient must be protected against the punitive consequences of those infractions of the law which can be shown to be the products of diseased activities of thought, feeling and volition. If, on the other hand, the dependence of a person's actions upon abnormal brain activity cannot be proved, that person must be held legally responsible, civilly as well as criminally, for all the consequences of his acts.

I have already indicated the points that are important in a psychiatric expert opinion, tending in the one instance toward the exposure of simulation of mental disease, and in the other toward indicating so forcibly the existence of actual insanity that the judge can entertain no doubt regarding the true state of facts. To determine whether a person is entirely deprived of the use of his intellect, or whether he is merely incapable of adjusting his actions to the demands which circumstances make upon him, often imposes upon the expert a most difficult task, whose fulfilment requires of him, above all, to bear in mind that the determinative factors from a forensic point of view rest not in the form which insanity takes, but in the degree of the mental disorder or the consequence which it entails. It would be as improper for the physician to certify the existence of mental health in a case where he is justified only in maintaining that the examination has revealed nothing pathological, as it would be for him to attempt, without most precise knowledge of all the details, to diagnose accurately the flowing transitions between the normal and the abnormal in indistinct psychic states.

The injury that may be done to a good cause by opinions based upon suppositions and probabilities, or by over-enthusiasm on the part of the physician, will be considered in detail further on. It has been my desire, just at this place, to show that it is

of no less importance for the jurist to understand the psychiatrist's point of view, than it is for the physician to construct his psychiatric testimony so as to conform to the jurist's standpoint and to do so with full consideration for the purpose and intent, though not necessarily for the letter of the law.

Part First

THE GENERAL RELATIONS OF JURISPRUDENCE AND PSYCHIATRY

I

HISTORICAL RETROSPECT

SCIENTIFIC information conveyed in the form of accomplished facts will more or less fail to be understood unless the source of this information and its development be carefully traced. No knowledge comes to us as a revelation, as a gift. Everything we wish to learn must be acquired through earnest mental effort, through accurate observation and reflection. At first the notions that lead to the recognition of any fact are rambling and misguided. Gradually they become more distinct and precise, until finally one or the other develops and takes a definite shape. Only then do we recognize the fact which has existed for all time. Such recognition is different from mere knowledge. Knowledge broadens into recognition when we appreciate not only that a thing is so, but also why it is so. Facts themselves persist without change. It is the interpretation of these facts that changes. Ages ago the manifestations of nature known as thunder and lightning were no different from what they are to-day, yet at that time they were looked upon as expressions of disapproval on the part of an angered Deity.

Similarly, in the manifestations of life, all organisms have always been the same; for all time the same diseases have existed and the causes and the symptoms of disease have remained unaltered. Psychoses, too, together with their productive causes and their symptoms, have always been the same. Our recognition of the physical and psychic manifestations of life under normal and pathological conditions, our appreciation of the cause of vital activity and its disorders, and our ability successfully to combat these disorders, have not remained the same, however, but in the course of time have undergone manifold and marked changes. The mental effort of generations of human beings was required in order that we should be able to understand that the endless circles of life, the unceasing alternations

of beginning and end, of rise and fall, of health and disease, were not matters of chance nor due to any extra-mundane, uncontrollable power, but were the results of strictly ordered laws.

In this consideration of the historical development of the teachings of mental disorder, I shall confine myself to the usual boundaries of the three main periods—ancient, mediæval and modern times. This division has the practical advantage of keeping the history of psychoses undetached from the history of medicine in general, for the development of the teachings of pathological mental states has necessarily stood in reciprocal relationship to that of the other branches of medicine. Moreover, medicine itself, in all the phases of its history, shows its dependence upon the intellectual culture that has existed at various times. The status of the intellectual culture of ancient times is characterized by its unsophisticated consideration of nature and its confounding of natural forces with gods and demons. During the middle ages all of medicine, including psychiatry, stood under the sway of scholastic philosophy. It was not until the sixteenth century that medicine gradually emerged from the bane of speculative, deductive modes of thought; then the adoption of inductive methods of investigation brought medicine into the ranks of the exact natural sciences. By no means would I have it understood that a knowledge of the psychoses developed concordantly with the remaining branches of medicine. This could not have been the case, if for no other reason than that the mind from all time had been considered something apart from the body, and the disorders of its activity, therefore, were not looked upon as disease in the usual sense of this word. It was long—far into modern times, in fact—before the principle became generally recognized that the science of the mind and its diseases was one of the branches of the natural sciences. It is from the time of this recognition that psychiatry may be said to have begun to exert an important influence upon forensic medicine.

In my historical reflections, therefore, it is my aim to show, upon the one hand, how psychiatry, under the influence of the varied intellectual tendencies which characterize the three chief periods of time we have mentioned, has developed with the other branches of medicine, and upon the other hand, particularly, how the study of insanity reenforced by its amalgamation

with brain and nerve physiology gradually became quite as important to jurisprudence as had been the science of legal medicine, whose existence long antedated that of forensic psychiatry. This historical introduction can, of course, lay no claim to completeness. My purpose is essentially to mark the milestones that guide us upon the developmental path of the science of the psychoses, so that the physician and the jurist will understand how the fantastic, theologically or philosophically colored notion of an unmaterial mind, with its non-physical disorders, has gradually been transformed into an actual recognition of the psychoses and an understanding of the annulment or limitation of responsibility which they may cause.

A. Ancient Times

The statement is often made that mental diseases were far more infrequent in ancient times than they are to-day. This remark seems to find its support in the fact that only exceptionally do the inscriptions upon ancient obelisks, tombs, etc., which recount all important happenings, mention the occurrence of insanity. This conclusion, of course, is not justifiable, because the very inscriptions which refer to the existence of psychoses may have been lost, and because many psychoses, particularly in those times, remained unrecognized. On the other hand, while it cannot be denied that the haste of modern life and the exhausting struggle for existence encourage an increase of mental disturbance, it is impossible for us to furnish any statistical basis that would permit us to express in actual numbers the amount of this increase.

I need but recall that during the first half of the eighteenth century women who were probably sufferers from mental disorder were burned at the stake as witches. Until well into modern times, thousands of such unfortunates met with death by fire because they were believed to be possessed of demons and were not considered insane. Under such conditions how can it be expected that the priests or others who in ancient times occupied themselves with the healing art should have had any clear notion of mental disorders?

Exactly as during the middle ages many insane were believed to be witches, so in ancient times many persons who talked irra-

tionally or acted in a turbulent and disorderly manner were undoubtedly looked upon as intoxicated or criminal. At any rate we must assume that transitory insanity and the early stages of chronic mental disorders, in which characteristic symptoms are not easily recognizable, were not considered as psychoses and, therefore, were not included among them. According to Haeser, the earliest accurate accounts of insanity are to be found in Hippocrates (460 B. C.). Just as the Greeks towered above all other peoples of antiquity in their intellectual culture, so did their medical teachings, although not upon a level with their achievements in art, philosophy and poetry, far surpass the plane occupied by Egyptian, Judaic and Oriental medicine. In the eyes of the latter, health represented more or less a gift of propitious powers, while its loss—disease—was believed to be the influence of demonic forces. How differently do we find this question treated by Hippocrates! He considers mental disorders to be dependent essentially upon bodily causes, and associates them more especially with diseases of the brain, although he had but scant knowledge of the build and function of this organ. Thus he believed it to be the function of the brain to gather the excess of mucus which, if not so gathered, would produce catarrh, and to secrete the seminal fluid, which then was conducted through the spinal cord to the testicles. The astonishing lack of accurate knowledge among the Greeks of the classic period is undoubtedly closely related to the aversion they entertained toward dismembering the dead human body. All the knowledge they possessed concerning the interior construction of the human organism was derived from the wounds received or inflicted in battle. This also explains why, in those martial times, the art of healing was almost exclusively a surgical one. Notwithstanding all this, Hippocrates had been able to formulate the opinion that the anatomically so much neglected brain was the central organ for thought, sensation and motion.

It is true, however, that the mental disturbances which often accompany bodily diseases were sharply differentiated from the psychoses as such. The Hippocratists knew but two fundamental forms of mental disease—melancholia and mania—but these terms by no means carried with them that sharp differentiation which they do to-day. The term melancholia designated

all psychic diseases that were presumably caused by an excess of bile. The term mania, on the other hand, referred to insanity in general. Special consideration was bestowed upon epilepsy and upon the question whether this affection was dependent upon supernatural causes. Hippocrates expressed himself decidedly in favor of its somatic origin and against the sympathetic and superstitious means of treatment that then prevailed. His remarks upon the influence of heredity, his description of the epileptic aura and of the attack itself, are in every way appropriate. Hence it may well be said that, as compared with the prevailing views upon medicine and the natural sciences, Hippocratic psychiatry had already attained a level of astonishing preeminence. No matter what may have been its faults and omissions, it had thoroughly grasped the fundamental truth, appreciation of which was later again lost, that psychoses are diseases of the brain.

Let us now pass to the question of the study of psychiatry among the Romans. This should bespeak our special interest as it is there that a comprehension of the intimate relation between jurisprudence and medicine was for the first time thoroughly appreciated. Whether the old Roman law recognized psychiatry as an accredited science and accepted its decision in cases of doubtful mental disorder is uncertain. On the other hand, we do know that the legal relations of the insane were better regulated among the Romans than among the other people of ancient times, and that they reveal a clearness of understanding for the notion of responsibility that must be considered remarkable. It is true this commendable condition of affairs was due less to the Romans themselves than to their instructors, the Greeks. Real Roman medicine existed to just as slight a degree as did real Roman philosophy or art. Whatever of medicine was found among the Romans was due, just as was the rest of their mental culture, to Hellenic influence. The two most prominent physicians of that period, Celsus (Aurelius Cornelius, first half of the first century) and Galen (160 A. D.) confined themselves in the main to the Hippocratic teachings, elaborating certain points, yet forcing certain others back to a lower level. This we can understand when we recall that, although the Romans subordinated themselves to the higher mental culture of the

Greeks, they still remained conservative in their fundamental views.

Almost to the end of the Republic, the Romans, who were the most superstitious of all the ancients, had recourse in all their public and private afflictions to the Sibylline books, and to sacrificial offerings to the numerous gods, who to their minds constituted all amicable and inimical forces of nature. In the mythology of the Greeks, as we know, the gods and the goddesses with whom they peopled their transcendental world also played an important part. Hippocrates and his disciples, however, attributed to this world of deities but a passive influence upon disease. Galen on the other hand was governed by the idea that the course of all vital manifestations was regulated by the power, wisdom and beneficence of the Maker of the universe. Man himself was but a passive instrument. Hence, the task of medicine could but be that of accurately describing the different diseases and the alteration which they produced.

In this direction Galenic medicine attained extraordinary dexterity. But, as it devoted no attention to the etiology of disease, or covered it with a veil of mysticism that was even worse than total disregard, the Galenic influence upon the development of Roman medicine represented no more than a revival of the doctrines already expressed by Hippocrates, namely, that observation and the experiment constitute the sole permissible means of investigation in medicine and the natural sciences. The later Greeks did not apply this perfectly correct principle to the study of the etiology of disease as Hippocrates had done. It is for this reason that we should not be astonished when we find Galenic medicine in general, and Galenic psychiatry in particular, representing a retrogression rather than an advance. Galen placed an enigmatical "pneuma" first among the factors which produced vital activity. It cannot be determined from his writings, according to Haeser, that he ascribed the origin of mental disease to bodily causes or assumed any connection to exist between them and diseases of the brain. His conception of the structure and function of the central nervous system was exceedingly primitive. Galen classified the nerves according to their consistency, into hard, soft or medium ones. The sensory nerves he placed in the first class, those of the spinal cord, which he believed to be entirely motor, were of the second class, and

the third class was made up of the nerves of the medulla oblongata, with both motor and sensory functions. That certain cranial nerves were motor in character, Galen explained by saying that they became more and more consistent during their course, and thus were transformed from sensory into motor nerves; the fact that all nerves did not originate in the brain, but that some arose from the spinal cord, according to this same authority, was due to the circumstance that if they all started from the brain their extreme length would have exposed them to the danger of being easily torn.

"Pneuma," the life-giving force, took its origin in the lateral ventricles of the brain from the blood of the carotids and then through a passageway (the aquæductus Sylvii) entered the fourth ventricle, whence according to need it was distributed to the various parts of the body. In this procedure the vermis of the cerebellum acted as a sort of a "bolt." The ganglia served as an apparatus by means of which the nerves were reenforced.

The diseases of the brain dependent upon anæmia were carefully differentiated from those due to hyperæmia. The former caused convulsions and paralysis, the latter apoplexy—not in consequence of extravasation of the blood, but as a result of an accumulation of mucus. The law of cerebral decussation in paralyses was well known to Galen. Thus we find his system containing an astonishing admixture of truth and fiction, especially so when he attempts to explain the results of his investigations. He clearly recognized the more distinct psychoses, but had no notion of their cause. [Fortunately the Roman jurists had a sufficiently clear understanding of insanity to enable them to regard the mere fact of its existence as a warrant for the assumption that free determination and responsibility were annulled or restricted. Whether the existence of insanity had to be determined by expert physicians, or whether the magistrates had to decide this question from their own observation, is not known. But it is much to their credit that they considered the existence of insanity a fact by itself and that from the viewpoint of the law they believed it to be immaterial whether this unfortunate state was brought about by natural causes or by the influence of the gods or demons.] The well-known states of depression and exaltation as they manifest themselves in melancholia and mania were amplified by Celsus through the addition

of those states that are characterized by hallucinations and fixed ideas. Not one of the ancient writers makes any mention of isolation of the insane. The old Roman provision that the insane must be guarded by their relatives is significant merely because it was a police ordinance. The manner in which the Roman law regulated the legal relations of the insane in civil questions is shown by its provision for the establishment of a curatelle. Historically such a guardianship is first encountered in the Roman law on account of improvidence. This curatelle (interdictio), based upon the time-honored law of custom, or common law, was originally applied in cases of the dissipation of a patrimony inherited through lawful succession and not through testamentary bequest. Later this limitation of the curatelle to improvidence can no longer be found in the Roman law. By means of the magisterial degree of interdiction, the spendthrift was placed upon a par with an immature minor. There was assigned to him a guardian (curator) whose sanction for the transaction of business was governed by a variety of considerations. The spendthrift was entirely incompetent to make a will or testament. No formal standard for the establishment of a curatelle solely on account of insanity can be found in the Roman law. But transactions carried out in a state of insanity were ineffective, the insane person being as incompetent as a child under seven years of age. On the other hand, he who was merely feeble-minded but not "insane" continued to maintain the same privileges as a person who was mentally healthy. In cases of mental disorder of long duration, a guardian was appointed to act in place of the patient, but, in case of the occurrence of so-called lucid intervals, the patient at once became legally competent to act for himself without any formal annulment of the existing guardianship. How unsatisfactory such a state of affairs must have been from a business point of view may easily be conceived.

B. Middle Ages

If we allow the intellectual trends that directed culture in the middle ages to pass before us in review, we will find that probably no one of them had so great and lasting an influence upon medicine and natural thought as did scholastic philosophy.

Generally speaking, philosophy is the science of the ultimate causes of all things. It endeavors to explain the entire realm of manifestations, their development and their purpose, their beginning and their end. The attempt to solve these problems by the aid of pure reason usually fails, because inevitably pure reason very soon reaches the limits of the recognizable. Then it must resort to hypotheses which can never be looked upon as proof, for they, being suppositions, must first be proved. This dilemma explains why transcendental notions have from the beginning of time played so great a part in philosophy. But in ancient times philosophy was theologically tinged, inasmuch as it endeavored more or less to explain the unrecognizable by the assumption of the existence of intangible powers, which were usually conceived as divinities. Even a mental giant so unprejudiced and practical as Aristotle could not emancipate himself from the belief in the existence of extramundane powers and supernatural forces.

The scholasticism which in the middle ages dominated all mental life, and, therefore, also all medical thought, differs materially, however, from the classic philosophy of the ancients. The characteristic distinction seems to me to be that the latter was a theologically colored philosophy, while the former was a philosophically colored theology. The ancient philosophers accepted transcendental notions as a necessary evil, as an indispensable aid in the interpretation of the universe. To them the important factor was the insight that they acquired through pure reason. The reasoning of the scholastics was just the reverse. To them theology represented the important factor, while philosophy was merely the means to an end. The prominent trait of scholasticism is the endeavor to demonstrate the omnipotence, the wisdom and the bounty of the Creator from his works—that is, from nature. The philosophy of pure reason did not accept the existence of this Creator as an apriori fact, but it was accepted as a hypothesis merely for the purpose of explaining the primary origin of all things. In scholasticism, on the other hand, the Mosaic report of the Creator and all other portions of the Bible referring to the nature of man, and also the biblical conception of demonic possession as an explanation of insanity, were unreservedly accepted as a revelation of truths which required no corroboration and to which philosophy, medi-

cine and nature study must be made subservient. Hence, the purpose of science could not be to demonstrate facts objectively, but merely so to aid theology's interpretation of the facts of nature, the vital manifestations of the organism's disorders of health, etc., that it would accord with the teachings recorded in the Bible.

For philosophy, therefore, it was theology, and for scholasticism it was philosophy, that represented the means to an end. Philosophy started from pure reason and made use of the conception of an extramundane power merely as an unavoidable aid in explaining the unrecognizable. Scholasticism on the other hand started from the Creator of all things as a fact requiring no proof, and made use of science merely as a support for its sophistical dialectic in order that it might interpret the realm of natural manifestations. These reflections enable us to understand how scholasticism exerted its restraining influence not only upon the study of medicine in general, but upon that of psychiatry in particular. To this scholastic influence more than to anything else must we ascribe the fact that medicine in general, during a period of more than a thousand years, had shown practically no evidence of any progressive growth, and that psychiatry during this time not only showed no advance, but may even be said to have retrogressed. Strange as it may appear, it is a fact that at the end of the middle ages, in the sixteenth century, medicine occupied about the same plane as it did at the beginning of this period, or perhaps even a lower one; so that modern medicine may be said to start where that of the ancients ceased.

Psychiatry had a more difficult road to travel than even the other branches of medicine, for after the inductive methods of observation and experimentation had taken root in their soil, psychiatry was still looked upon as occupying a special position —as being an intellectual science.

Even as used to-day the expression "mental disease" is misleading, inasmuch as it conveys the impression of a disease of the mind as opposed to a disease of the body. As a matter of fact, no such opposition exists. Mental disease is bodily disease, and differs from other forms of such affliction merely by reason of the fact that it has its seat in the brain. Not every brain disease is mental disease. But every mental disease is brain dis-

ease, even when no anatomical lesion of the brain is discoverable. This fact, which Hippocrates had already suspected and voiced, has not acquired general endorsement even in modern times, to say nothing of the middle ages. During the middle ages, in fact, this most important truth was throttled and buried under the superstitious belief in demonic possession. Mediæval psychiatry, therefore, does not even exemplify a transition from ancient to modern teachings, but represents a period of decline, which could be checked only after innumerable errors had been overcome.

The deplorable state of psychiatry in the middle ages is clearly shown by all works upon the history of civilization that treat of this period. It is true we find mediæval reports of mental disorders, even of such as occurred in epidemic distribution, such as dance madness, lykanthropy or the belief in the transformation of human beings into "man wolves," etc.; but not a trace of any scientific psychiatric work can be found to have been done during these benighted years. As late as the seventeenth century the only treatment for what we now call insanity was exorcism or imprisonment. Here and there, as in Hamburg, Frankfort on the Main, Würzburg, and a few other towns, the quiet insane were confined in institutions specially provided for the purpose, and in these they received more or less humane treatment. We must not lose sight of the fact, however, that the most extraordinary confusion regarding the diagnosis of insanity existed at that time. Insane patients who spoke or acted sacrilegiously were supposed to be possessed of the devil; those who suffered from sense deceptions of a religious nature, who had visions of heavenly apparitions, were often honored as saints. Many persons who, according to modern ideas, were mentally healthy, were declared insane because they expressed ideas which could not be understood by their associates; others who were actually insane, and in that state committed murder or other serious crime, were delivered to the sanguinary executioner by the pitiless law of those times. [Nowhere was the thought expressed that the question of freedom of the will and responsibility in criminals, even when they appeared to be abnormal, was one that should be submitted to medical experts. The people of the middle ages, all in all, were neither more brutal nor more unjust than the people of to-day,

but they were boundlessly ignorant and governed by crass prejudice and superstition.

C. Modern Times

At the commencement of modern times we find the fundamental views in medicine according almost entirely with those of Hippocrates. Medical science of the sixteenth century made its start at the point where it had been left by the ancients. The entire middle ages seem to have passed by all scientific investigation of nature's manifestations without leaving any mark of progress; on the contrary, there was a retrogression during this period. The soil of the middle ages had been prepared for development by Greek medicine. Had this era made good use of its heritage, the science of medicine could not have failed to advance. The task that fell to the middle ages was a far easier one than that with which the classic period of antiquity had to deal, for it had but to continue the structure upon the ground work that had already been prepared. This, as I have shown, had not been accomplished, and the reasons have already been given why a stagnation in the studies of medicine and the natural sciences should have lasted until about the time of the invention of the art of printing, the discovery of America, and the Reformation. The power of the scholastic spirit had first to be broken, and this, because of the scientific garb with which it had succeeded in enveloping itself, was necessarily a slow procedure.

Individuals like Giordano Bruno, Roger Bacon, etc., pioneers of free investigation, men who were willing to sacrifice liberty and life to their convictions, found few followers. The sixteenth century constitutes an epoch in history the significance of which can be compared to no other. In all fields of life an unparalleled reaction was taking place. This change, whose beginnings in many instances reached back to a far earlier period, often enough showed its effect only at a much later time. Many of the new inventions and discoveries (microscope, telescope, chemistry, etc.) proved of inestimable advantage to the natural sciences. Medicine derived great advantage from the studies of the humanists, inasmuch as a knowledge of the healing art as it had been developed in the classic period had been transmitted only by means of the distorted and mutilated

scholastic editions of the Latin translations of the works of Hippocrates, Aristotle and others, and a reconstruction of the original text often cast an entirely different light upon the medical views of the classicists. Among other facts it was thus established that Hippocrates had attributed the origin of the psychoses to natural causes and also had declared them to be diseases of the brain. Many physicians of the sixteenth century soon were found energetically opposing the prevailing methods of treatment by means of exorcism of evil spirits and other measures of restraint. Together with these and many other gratifying effects of progressive enlightenment in the field of nature study and anthropology, we must note the gradual disappearance of the ridiculous views that had been held in regard to the relationship of body and mind. How slowly this progress was achieved, however, is exemplified by Paracelsus (Philippus Aureolus, 1493-1541), who may well be looked upon as one of the most enlightened men of the first half of the sixteenth century and one of the most capable physicians of those times. As in all medicine, so in psychiatry Paracelsus represents the transition from the middle ages to the modern era. The nature of his psychiatric views, as Kornfeld states, is exemplified upon the one hand by his doctrine that every disease represents a living thing that bears the same relation to the body, for instance, as a parasite does to a tumor growth, and runs a different course in each individual according to age, sex and peculiarity. Upon the other hand, Paracelsus differentiated between the visible and tangible body, and the invisible, intangible, celestial or astral body, which reigned as an active force and vital spirit in the mundane body. Just as the natural instincts had their base in the mundane body, so all the arts and all natural intelligence had their base in the astral body.

That Paracelsus was devoted to astrology is shown by his views concerning the influence supposedly exerted by the heavenly bodies and the various constellations upon physical as well as upon mental disease. Man appeared to him as a "little world" (microcosm) in which the "large world" (macrocosm, universum) embodied itself. At the time of the full moon and of the new moon, insanity increased because the brain was the microcosmic moon. The prime beginnings of all diseases lay in salt, sulphur and mercury; through heat, mercury became sub-

limated, precipitated and distilled. Sublimation caused mania; precipitation caused gout, distillation caused paralysis and melancholia. Against mania, Paracelsus recommended the use of the actual cautery, the application of which was to be governed by the direction of the wind. Moreover, he specially mentioned venesection as a means of treatment, and the influence of colors upon the emotions was well known to him and was therapeutically utilized. Paracelsus is the typical exemplification of that fermenting transitional period in which we find new ideas in constant contest endeavoring to wrest the wand of supremacy from one another. If it was possible for the one man whose knowledge and mentality towered above that of the majority of physicians of that period and also above that of his contemporaries in general, to evolve such a peculiar conglomeration of old and new ideas, what could we expect of other investigators and thinkers?

Extraordinary and absurd as the views of Paracelsus may appear to us, there can be no doubt that he had surmised many a truth, whose correctness, however, was acknowledged only at a much later period. The study of his writings is of peculiar interest because they reveal the beginnings of not a few ideas which later, as newly discovered facts, acquired a certain significance. Thus we find venesection being employed to-day for the relief of hyperæmia of the brain; the spiritists have again disinterred the "astral body"; modern helio-therapy ascribes an important rôle to the influence of colors upon animal states; the relationship that the phases of the moon are supposed to bear to the manifestations of somnambulism has been rediscovered various times since Paracelsus first affirmed its existence.

Let us now examine more closely the influence exerted by modern times upon the eradication of the belief in astrology, alchemy and witchcraft, as well as of superstition in general. We find that Wyer in particular acquired lasting renown through writings directed against Sprenger, the notorious Dominican monk. In these he attacked the folly of witch prosecution and witch destruction; but Wyer alone was by no means able to eradicate the witchcraft delusions. This obsession continued to exist not only among the lower classes, but also among the educated, so that even as late as the year 1749 we find the medical faculty of the University of Würzburg endorsing the

death sentence pronounced upon a witch by the theological faculty of that university.

Only in view of this firmly rooted superstition, one which controlled people of all classes, can we comprehend how it was that witchcraft prosecutions could be continued even into modern times, not only in Catholic communities, but also in Protestant countries, and particularly in the State of Massachusetts (Salem). Wyer's polemics, written in the Latin language, must have been known in America as well as Europe, but his ardent words had little effect, because the time had not yet come for a differentiation between hysteria and witchcraft. To have proper regard for historical facts, we must state that the voices raised against witchcraft delusions were not alone those of physicians, but in great part those of theologians, and the opposition of the latter could not fail of effect. Blind belief in authority certainly received a severe blow. Independent minds refused longer to subject themselves thoughtlessly to theological and philosophical dogmas, and the investigations of the natural sciences were soon directed into those new paths that led to the inventions and discoveries which in the sixteenth century so rapidly followed one upon the other. The world in general, and man's place in nature in particular, soon appeared in an entirely new light. The printing press kept aglow the fire that glimmered under the ashes. All those influences could not help but leave their impress upon the further development of medicine, and particularly of psychiatry. More especially was this progress aided by the thorough reform inaugurated in the study of anatomy and physiology by Vesalius (1514-1564). Naturally his anatomico-physiological accomplishments must not be measured by modern standards. Inasmuch as he did not have at his disposal any of the accessories of modern medicine, it is not surprising that his conception of the structure and functions of the brain and nervous system should have been but an inadequate one. Whether Vesalius looked upon the brain as the seat of the soul, and upon psychoses as brain diseases, is uncertain. On the other hand, we are sure that Descartes (1590-1650) believed the seat of the soul to be the glandula pinealis. Notwithstanding this and other errors, a decided step in the right direction had been taken. The period of inductive investigation inaugurated by Francis Bacon (1561-1626) gradually bore fruit. Physicians

and their allies, botanists, zoologists, physicists, chemists, etc., emancipated themselves more and more from the mystic motions which, under the sway of speculative deductions alone, had obscured all clear comprehension of the actual manifestations of nature. By confining themselves to observation and the experiment, and by recognizing that sensory perception constitutes the sole reliable source for acquiring a correct understanding of these manifestations of nature, they recognized more and more how thoroughly the actual state of affairs was at variance with their previous conceptions.

The history of psychiatry in particular, however, demonstrates, just as our experience in other fields of science has again and again shown, that it is far easier to assimilate a certain branch of knowledge step by step without any prior acquaintance than it is to begin such a study on a basis of erroneous notions. In the one instance we commence by laying the foundation for our subsequent learning; in the other, however, the structure already erected must be demolished before any building can be done. Psychiatry, though so highly developed in ancient times, declined more during the middle ages than any other branch of medicine. Its very foundation had been shaken by the philosophy of scholasticism. The entire study of the soul or mind was enshrouded in a dense fog of preconceived opinions. The soul was said to be of divine origin, and to have existed for all time. During procreation it was supposed, by special act of providence, to amalgamate with the corporeal germ. Nevertheless, the soul was supposed to be and remain something entirely uncorporeal and to be able to exist independently of the body itself. To overcome these deep-rooted fallacies was by no means easy, and hence we cannot be astonished if even the most discerning minds of that period, men who pursued their anatomical and physiological studies in the spirit of Vesalius and who therefore gave close attention to the investigation of the brain and the mind, should have confounded truth and error as they did. It is quite impossible to enter upon details here; I can but mention the chief representatives of the new investigational trend—Glisson, Willis, Cullen, Haller, Stahl, Sydenham, Brown.

The actual founder of the modern science of anatomy and physiology of the central nervous system, and hence of modern psychiatry, is Reil, whose special work has served as a basis for

all subsequent investigations and particularly for those of Bichat, Bell and Johannes Mueller.

Before proceeding to a consideration of the period immediately prior to that of modern medicine I should like to call attention to the fact that forensic medicine, and with it, of course, forensic psychiatry, became an integral part of jurisprudence only after 1532, when the Emperor, Charles V, persuaded the Diet of Ratisbon to adopt a universal code of penal jurisprudence in which the civil magistrate was required in all cases of doubt or difficulty to obtain the evidence of medical men. It became the duty of the medical officials to aid the legal authorities in the investigation of all facts relating to personal injury, infanticide, poisoning, deaths by violence, etc., and to assume the care of insane persons, as well as to unmask simulation.

Kornfeld corroborates the surmise which I have already expressed, that the Roman law took practically no cognizance of the physician as an expert. In view of the extraordinary poverty of medical and psychiatric knowledge that existed even at the time of Cæsar, this is quite comprehensible; and the restriction of the exercise of the art of healing to slaves clearly shows the low degree of esteem in which it was held. Even at a later period, when Greek physicians in Rome were active as the physicians of the state and were organized as a medical body, medical expertism had no standing at all before the courts. This is all the more astonishing because the Roman laws, as previously stated, treated the question of responsibility in accordance with certain definite rules and gave careful attention to other details of forensic medicine. It is quite possible that the disregard for medical expertism was partly due to the fact that expert opinions were often directly at variance with each other, just as they are to-day, and that the medical questions involved in the cases submitted for judicial decision consequently became obscured rather than illuminated.

Galen's treatise on the "Recognition of Simulation," generally believed to be the earliest medico-legal work, in no way mentions the legal significance of mental expertism. From the body of Roman law compiled and annotated at the command of the Emperor Justinian, we learn simply that the medical and psychiatric doctrines expounded by medical experts merited consideration by the judge, but that he was in no way bound by

them in deciding the question of responsibility. Simulation of insanity seems to have been very infrequent at that time, a fact explained by the state of culture then current. Simulation of slight disorder would not have averted punishment, while simulation of severe psychosis would have created suspicion of demonic possession.

This state of affairs persisted throughout the entire middle ages and did not improve even with the introduction of the legislation dealt with in the "Carolina" (1532). Just as Galen had done, so Zachias in the seventeenth century gave specific directions for unmasking simulation. According to him, no form of shamming is more difficult to unmask than that of insanity. Among the notable personages who had simulated insanity, Zachias named David, Odysseus, Solon and Brutus. He designated an ashiness and pallor of the skin, together with deeply sunken eyes, as among the signs that differentiated actual from simulated melancholia. True mania was said to be characterized by a livid color and protruding eyes. Where simulation was suspected, Zachias recommended that the emotions be artificially aroused, a procedure supposed to be impossible in persons who were actually insane. The older authors, moreover, were acquainted with the fact that conditions of ecstasy were dependent either upon insanity or upon wilful deception, and furthermore that persons habitually simulating pathological mental states easily become a prey to actual insanity as a result of their perverted efforts. To-day we know the majority of simulators are actually mentally disturbed and that their simulation of disease is no more than a manifestation of their psychopathic constitution.

This fact, of such eminent importance in forensic psychiatry, had already been recognized and fully explained by Arnold in 1784 and Metzger in 1803. Notwithstanding such individual instances of enlightenment, the majority of physicians, even into the nineteenth century, believed the best means for unmasking attempted simulation was a good beating; and very few of them, when endeavoring to balk such attempts at deception, thought for one moment of looking for the presence of objective symptoms, not dependent upon the patient's volition. If we go back still another century, we find the simulants occupying a still more precarious position. When they were successful, their skill

was the cause of their being sent to the fire heap, on the ground of possession by evil spirits; when unsuccessful, their awkwardness brought upon them the most barbarous punishment. Even when the suspicion of simulation was unfounded, the suspects were not safe from brutal treatment. The mediæval spirit which permitted Luther to propose drowning an idiotic child had not yet ceased to exist. I have already given an example of this spirit by showing how, as late as the middle of the eighteenth century, the medical faculty of Wurzburg passed expert judgment upon the mental state of a "witch." Whenever in a given instance manifest symptoms of idiocy or mania did not exist the forensic psychiatrist usually failed to recognize the presence of disease, to say nothing of his inability to unveil any attempt at simulation. At that time, as previously, the dangerous insane, even when recognized as such, were incarcerated together with criminals or placed in strait-jackets, quieted by the rapid rotation of the notorious gyratory chair, scourged with whips or immersed in ice cold water. There did exist scientific psychiatric work and scientific psychiatric workers; but unfortunately progress in anatomy and the physiology of brain and nervous system did not pass beyond considerations of a purely theoretical nature.

Stahl and his pupils attempted to put their ideas to practical use, but could not carry out their humane endeavors because there were no institutions for the reception and treatment of the insane, no practical test could be made as to whether it was possible to improve or cure states of mental disorder without measures of restraint, and consequently the value of the new investigational trend could not be demonstrated. The fact that all progress was upon the side of theory and was not of practical moment was due not only to a persistence of the mediæval spirit but also to the appearance of that tendency in natural philosophy which still has a certain amount of support to-day under the designation "vitalism." The over-zealous enthusiasm of Paracelsus and other revolutionary minds of the sixteenth and seventeenth centuries in attempting to annihilate everything previously existing and to place the whole of medicine upon a new basis is convincing proof of the correctness of the saying that "each extreme to equal danger tends." Up to that time the ultimate causes of the manifestations of life had been

relegated to the transcendental world, but now an attempt was made to explain all vital processes, physical as well as psychic, by the laws of nature. Correct as this principle was in itself, it was doomed to early disaster. In order to appreciate this apparent paradox we have but to recall that the physics and chemistry of that period had not yet passed through the first stages of their development and that even such geniuses as Paracelsus and Haller, embodiments of the entire knowledge of their time, had but a feeble conception of the laws and forces of nature. Necessarily, because of the inadequacy of the aids at the disposal of science for purposes of investigation, the boundaries of the knowable were very much more restricted than they are at present, and any one who was no longer content with a mere establishment of facts but who demanded an explanation of their causal relations soon arrived at the point where he could obtain no answer other than "We do not know." On account of the meagerness of actual knowledge concerning the laws of nature, there remained so much that could not be explained that recourse was had to the "vital spirits" which had played so important a rôle during the classic period of antiquity under the name of "pneuma."

It was not yet time to comprehend the world's development from the laws of nature alone. The premature application of the fragments of physical and chemical knowledge of the processes of life and other phenomena could not but produce evil results, and there still remained an unknown quantity which, notwithstanding all precise investigation, could not be rescued from obscurity. This unknown quantity was called "vital force." Mysticism and speculation soon had free rein as a result. Vital force represented to each individual whatever he was pleased to consider it. Fortunately, however, science had by this time become far too skeptical to allow itself to be swayed by theosophic enthusiasm and visionary notions. Therefore it was only upon the investigations of those physicians who believed the mind to be something unmaterial, and its disorders to be the result of sin, that vitalism exerted its paralyzing influence. Where so insupportable a premise existed, a search for the causes of disease, or for measures to prevent or remove them, was of course futile. Nevertheless, as late as the middle of the last century we find the Bavarian clinician von Ringseis (1785-1880)

recommending propitiation of God as the best means for curing disease. Other clinicians, like Heinroth and Ideler, of Berlin, did not go quite so far, but even they considered the mind as the principle which ruled the body, and the psychoses, therefore, as something entirely different from bodily disease. In these views we see the influence exerted by Schelling's "Philosophy of Nature," which declared nature and mind to be identical. It was this doctrine that caused a schism in the ranks of the vitalists. The thoughts of the more conservative continued to be governed by a temperate, quiet, observation of facts; for them it was the body that determined the functions of the mind, and the latter therefore were dependent upon their material basis, more particularly upon the composition of the brain and nervous system. Inasmuch as experimental (physiological) psychology did not exist a century ago, no psychic manifestations (reflex action, apperception, thought, association of ideas, etc.) could be understood. All these manifestations were attributed by the temperate vitalists to the action of "vital force." In this they were still very far distant from the radicals who ascribed all unexplained vital processes to transcendental causes The temperate element, moreover, regarded vital force as being subject to the laws of nature. Their fundamental error consisted in believing that everything that they had been unable to recognize belonged to the category of the unrecognizable. Therein lies the essential difference between the scientific views of those times and of the present. Many things still elude our sense perceptions. I need but refer to the problems of the earliest production of life. We regard it as certain that the enigmatical manifestations of early mental life are based upon natural causes; but we do not maintain these causes to be unrecognizable. We merely assert that they have not yet been recognized. The mere fact that something has not yet been recognized does not mean it is actually unrecognizable. Many processes of nature which our forefathers regarded as being hidden behind an enigmatical veil can to-day be traced to their ultimate causes; similarly our descendants with their improved means of investigation, will be able to furnish precise proof of the cause of those phenomena of nature that are still unrecognizable to us.

The moderate vitalists of whom we have just been speaking,

including Haller, Reil, Johannes Mueller, and Oken, the founder of the society of German naturalists and physicians, contrasted sharply with all other vitalists. The latter looked upon the mind as the governing principle of the body and endeavored to explain all physical occurrences by means of psychic processes. It is indisputable, of course, that psychic functions do exert a marked influence upon the activity of the body. Elsewhere I have demonstrated how mere imagination may not only produce functional disturbances, but may even remove such disorders when they exist, a fact which becomes very evident in those paralyses which continue only so long as the patient's attention is directed toward them, but seem to disappear as soon as it is diverted into other channels. But even if we must ascribe to the mind a certain power over the body, we can by no means endorse the contention of the vitalists, that the spirit (mind) is the carrier of life. It is essential to grasp the harmfulness and absurdity of this theory in order that we may comprehend why psychology and psychiatry until the second half of the last century were unable to reap any benefit from the fact, long theoretically recognized, that diseases of the mind are diseases of the brain. The same theory, furthermore, explains why psychiatric investigation was in no way benefited by any of the new medical systems which arose from the fermenting leaven of old and new systems and views of the eighteenth century. Of these systems, that of Hahneman was the most aggressively representative of vitalistic views. Assuming the existence of a force without matter, and believing vital force to be solely spiritual in character, he maintained that the diseases caused by alterations of vital force could not be demonstrated either etiologically or symptomatically, and that it was therefore not worth while to endeavor to ascertain the cause of diseases, whether mental or physical, or to endeavor to recognize and demonstrate their manifestations.

These various historical facts demonstrate how, until well into the nineteenth century, all recognition of the forms of manifestations of the different psychoses was of the most primitive kind, and why the brutal and senseless treatment accorded to the insane was the result of crass ignorance. But even during the times of the most intense superstition there were many physicians who, notwithstanding they were similarly prejudiced, were

governed to such an extent by their humane feelings that they considered the insane as unfortunate, pitiable beings who, whether or not their deplorable state was caused by an "evil spirit," certainly were sick and required mental aid.

To England must be awarded the credit of having led all other countries in the humane care of the insane. As early as 1547 a former convent in Bedlam (Ireland) was transformed into an asylum for the insane. Not until two hundred years later was the first public insane asylum organized in St. Luke's Hospital in London. Psychiatry was benefited to a far greater extent by the organization of numerous private insane asylums, for the most part founded by the pupils of Cullen. Among these were the asylums founded by Thomas Arnold in 1816 at Leicester, by William Perfect in 1818 at Westmalling, Kent, and by the Scotchman, Alexander Crichton, in 1820 at London. Crichton attributed the psychoses to physical and mental causes, while Perfect laid more stress upon the somatic origin and upon the hereditary transmissibility of mental disorder.

In France the deplorable state of psychiatry continued to persist. It was not until the occurrence of the Revolution and the proclamation of the "rights of man" that the unfortunate insane were released from the prisons in which they had been incarcerated. The impetus to this action was given by Pinel, who in the face of personal danger forced the assembly to permit the insane to be dissociated from their criminal companions. Pinel found a most worthy successor in his pupil Esquirol, director of the Salpêtrière, in 1811, Inspector General of Medical Instruction in 1823 and Director of the Insane Asylum at Charenton in 1826. Esquirol devoted his entire life to the study of insanity. The foundation of the first psychiatric clinic in Paris in 1817 was due to his efforts. Here for the first time it was made possible for a physician by means of methodical, theoretical and practical instruction, to acquire at least a fundamental conception of psychiatry.

At the beginning this instruction was so arranged that the theoretical part was embodied in the university schedule. The practical demonstration took place in the asylum. Where no asylum existed in a university town, the student's knowledge necessarily was entirely theoretical. Moreover, theoretical psychiatry, at that time of transition, continued to bear a marked

philosophic impress, and in some universities this instruction was given not by a teacher of medicine but by a member of the philosophical faculty. Not until the middle of the last century was a psychiatric university clinic organized, in which the students in medicine were taught to lay aside all prejudice and to look upon mental disease as disease of the brain and nervous system. From that time on the clouds that had obscured all psychiatric teachings began to lift. The scholastic doctrines that psychoses could be influenced by psychic remedies alone had at last been finally overcome. The veil which philosophy and theology had for centuries spread over an understanding of all mental processes was entirely raised by the influence of theoretical and practical instruction in the university clinics. From that time on every student of average intelligence recognized that mental disorders represented something entirely different from what the older theory had assumed them to be. Experimental pathology, with its methods of exact investigation, soon succeeded in removing the last persisting doubt, and showed that no positive knowledge could be obtained by a study of psychoses according to a preconceived theory, but that, on the contrary, theory must be deduced from clinical observations, from the results of experimental investigation alone. A worthy imitator of Esquirol was Ferrus, who associated with Pinel as physician to the Salpêtrière in 1913, later became physician-in-chief to the Hospital at Bicêtre, and still later inspector of French asylums for the insane, into which he introduced agricultural occupation of the patients as a means of treatment.

The rapid growth of the French School of psychiatry was due entirely to the employment as a means of investigation of pathological anatomy combined with precise clinical observation. Bichat, although himself not an alienist, was one of the leaders in this movement. His studies of the brain and nervous system resulted in valuable disclosures, which were supplemented by the teachings derived from the autopsies regularly made upon the bodies of patients who had died during a pronounced psychosis. While Bichat's work was going on in France, the efforts of Reil in Germany and of Bell in England were proving of great service to psychiatry. Following these precepts, Chiarugi, in 1823, published a text-book of mental disease based essentially upon results obtained from pathological anatomy, a basis which

must be characterized as premature, because even to-day there is lacking a clear understanding of the structural changes in the central nervous system that are associated with mental disorder.

Working together, Spurzheim and Gall arrived at the conclusion, at once endorsed by French investigators, that mental disorders should be considered not only diseases of the brain but also that they were bound to certain definite regions of that organ. This principle of localization attained complete ascendency after two pupils of Spurzheim, Voisin and Georget, had declared the "alteration" which arose in any part of the brain to be the starting point of the psychosis. Among the pupils of Esquirol, who aided the progress of psychiatry through their independent investigations, unhampered by theoretical assumptions, we must especially mention Foville, Calmeil, Falret (father and son), Morel, du Boismont and Trelat.

Reil, the founder of the newer period of psychiatry in Germany, has already been mentioned. He, like Pinel, was first inspired to take up his psychiatric work by the deplorable conditions then existing in all asylums for the insane. Later his interest in this branch of medicine found full occupation in his investigations of the structure of the brain. Reil's endeavors to establish hospitals for the mentally disordered were frustrated by unfavorable political conditions, the concentration of endeavor to free Germany from the Napoleonic yoke, and by his premature death. The most important psychiatric representatives of Reil's teachings are Horn and Nasse. Far more successful than the work of Reil, which for the most part was theoretical in character, were the efforts of Langermann, who advanced the practical side of psychiatry. His endeavors were aided by the reestablishment of peaceful conditions in Germany and by the foundation of appropriate institutions for the care of the insane.

Nor had other countries been inactive. In Holland, Schroeder van der Kolk, and in Belgium, Guislain, were the standard-bearers of modern psychiatry. Most decisive influence upon the care of the insane was exerted by the Scotchman, Connolly, the originator of the non-restraint system.

The pronounced victory that the inductive method of medical investigation gained about the time of Virchow's cellular pathology caused psychiatry to take rank as one of the natural sci-

ences. Through the work of Fechner and Weber, the science of psychology and that of physiology of the brain and nervous system had been entirely transformed, and it had been shown by experimental means that all psychic functions were accompanied by physical alterations, hence that all psychic manifestations of life, under normal as well as under pathological conditions, were dependent upon physical processes. The physiological method of psychic investigation was still further developed and elaborated through the comprehensive work of Wundt, so that to-day this method of investigation merits particular consideration as representing the basis upon which rests not only psychiatry but also pedagogic psychology. In the course of my treatise it will be necessary to refer repeatedly to the methods of examination elaborated by Wundt and his coadjutors. Among the older psychiatrists, those who have laid special stress upon the somatic origin of mental disorder and who have strenuously opposed the notion that disease of the mind is no different from disease of the body, I would mention the names of Damerow, Griesinger, K. W. M. Jacobi, Jessen and Fleming. Whatever else may be said about the development of modern psychiatry constitutes part of the happenings of to-day, so I may be permitted to confine myself to a mere mention of the important stages. The system of family care of the quiet insane and their agricultural employment that has existed in the Belgian village of Gheel since the twelfth century has in recent years been successfully adopted in many other places. Of course, family care and agricultural colonies alone will not suffice, and institutions with closed doors are still a necessity. From these, however, practically all measures of restraint have been banished.

To-day we know that the brain, like every other organ, may become diseased either primarily or secondarily. It is not necessary that such disease should be accompanied by psychic disorder. Every psychosis or neuro-psychosis, however, must be accompanied by affection of the brain and its conducting tracts. We know that intoxication of various kinds may be followed by exhausting transitory mental disorder which later disappears, unless permanent changes of the brain substance have been produced. But we also know that a general constitutional disease of the blood may so vitiate this fluid that the nutrition of the brain will be damaged. In such cases, no demonstrable lesion

will be found, either during life or upon autopsy; as paresis is the mental disease in which organic changes are most pronounced, it is this affection which has been most carefully studied. Westphal was the first to describe the ascending form of this disease, also known as tabo-paresis. Gudden also has occupied himself most seriously with this psychosis and by means of animal experiments has demonstrated the results following destruction of the nerve endings in the brain. The very recent discovery made by Noguchi and confirmed by other investigators, that the spirochætes of syphilis are present in the brains of general paretics, opens an entirely new vista in regard to the natural course, pathological anatomy and treatment of the disease. While it had long been suspected that the Treponema pallidum (Spirochæta pallida or spirochætes) was the essential productive factor in paresis, the proof of its existence in the brain now renders the problem of future therapeutic work much more precise and hopeful.

Great progress has been made through the Mendelian law of heredity. But, because of a lack of family trees and other statistical foundations, we are yet unable practically to apply this law in such a manner that an amelioration of the race through elimination of inferior generative qualities can be obtained. More recently literature has been replete with discussions for and against these "eugenistic" endeavors and, among other things, instances have been published of a robust, healthy woman who, in accordance with the law of inheritance, should bear a normal offspring, having brought into the world a dead anancephalus, while, upon the other hand, an anæmic, crippled, rheumatic woman bore a strong, healthy child. We therefore possess no criterion by means of which we could decide which individuals should be permitted to propagate—that is, to marry—and which ones should be forbidden to do so. Regarding the degeneracy that is said to threaten the race in consequence of inheritance of mental disease, we certainly should not be unduly apprehensive, because the transmission of the germs of degeneracy is never accomplished alone. With them, in fact, there are always transmitted germs of regeneracy which serve to neutralize their ill effects.

A much debated question is the one regarding the point of view that is to govern the systematic classification of the psy-

choses and neuro-psychoses. Kraepelin considers our present classification of disease as a mere attempt to present temporarily a certain part of our observations in the form of material for clinical instruction. Very justly he points out that a complete knowledge of all the details that the study of pathology, anatomy, etiology and symptomatology could furnish would necessarily make any classification of mental disorders constructed upon the basis of any one of these divisions accord essentially with any other classification constructed upon the basis of the knowledge derived from the study of the other fields; for it must be clear that diseases resulting from the same causes must under the same conditions always show the same clinical manifestations and the same pathological alterations. Hence there could be but one system of classification, no matter which point of view had governed us in its construction. As yet, however, our knowledge has not arrived at that stage of perfection. Neither pathological anatomy, nor etiology, nor symptomatology is able to furnish a reliable basis for a classification of the different forms of mental disease. In the majority of instances the causes of insanity remain obscure. With our present means of investigation, the autopsy in only a few instances can give us precise information regarding the organic changes apparently indicated by the clinical symptoms. Certainly there are no individual evidences of mental disease that are unmistakable. For purposes of classification we must have before us the entire picture of a disease, as shown by its course from beginning to end, because that enables us to register similar observations as belonging to a certain category, and warrants us in arranging the various forms of insanity, according to their similarities and dissimilarities, into a definite system, with classes or subdivisions. It must be admitted that variations in the mode of origin of similar forms of insanity may remain hidden or, on the other hand, that similar modes of origin of apparently dissimilar forms of insanity may not be recognized, so that instances of disease naturally belonging together are classified separately, while others which should be separate are classed together. Some do not fit into any one of our classifications and cannot be made to do so. Life, in health and disease, manifests itself under such endlessly changing forms and transitions that every scheme of classification must remain more or less incomplete. Psychiatry, like

every other science that is not yet completed, must not be allowed to become riveted to any one "system" which, after all, can merely serve to enable us to express a certain stage of our knowledge. Almost every author groups the psychoses differently, and almost every country has its own special "system."

The physical changes constituting the basis of the psychoses are as yet only partly known. Nor do we know precisely how the congenital weakness or inferiority of the brain which we look upon as a disposition to disease finds its expression in the cell structure. For this reason we are still obliged to designate the various forms of psychoses by terms that characterize the psychic aspect of the disease, whereas, as has been proposed by various writers, it would be far more correct to designate the diseases by names that would emphasize the physical manifestation of the pathological process. Only if this were done would it become clear to every layman that mental diseases are to be regarded in precisely the same light as tuberculosis, cancer, nephritis or any other ordinary disease. It is impossible to enumerate all the investigators who by their anatomical, physiological or clinical work have aided in disentangling the relations that exist between morbid manifestations of nerve activity and corresponding changes in bodily functions. But I must mention advances that have been of particular significance in the development of forensic psychiatry.

Increased precision in the recognition of mental disorders has made it necessary to frame a formal statutory expression of the manner of judging the actions of mentally abnormal individuals. We can have no better pattern than that furnished by the civil and criminal statutes of the German Empire. These assume the existence of diminished responsibility or restricted freedom of the will in the feeble-minded, the alcoholic and the squanderer. Persons in these groups, on becoming of age, may be placed under guardianship and considered as children in the eyes of the law. If they have committed any punishable act the full severity of the law is not meted out to them. Moreover, according to the same statutes, an unlawful act is not punishable if the offender, when committing the act, was in a state of unconsciousness or of pathological disorder of mental activity through which freedom of voluntary determination was precluded. The Anglo-Saxon law as applied in similar cases

has certain shortcomings. Above all, it recognizes no "diminished" responsibility. It regards a person either as being mentally sound and entirely responsible, or else as being mentally diseased and not at all responsible. The fact that numerous intermediary degrees may be recognized, though often only with the utmost difficulty, is disregarded by the Anglo-Saxon law. Accordingly a psychically inferior law-breaker either is punished too severely or escapes punishment entirely. The requirement that a jury bring in a verdict for or against the guilt of an insane person accused of committing an illegal act must place every one concerned in a most extraordinary position. Every illegal act carries with it a demand for expiation, and if the jurors return a verdict against the defendant, it leads in the one case to the extraordinary declaration that the insane person is guilty of having committed a crime, while in the other case the admission is made that no punishment can be instituted although a crime has been committed. This dilemma is avoided by the German law, which holds it impossible for an insane person to commit a punishable act. Consequently when the psychiatric experts have presented convincing proof of the existence of insanity, the district attorney in the German court withdraws his application for punishment and the indictment is annulled. Thus the matter is settled and the jury need not decide upon the question of "guilt" or "innocence." It is true this procedure is facilitated by the fact that the psychiatric expert is a public official, who has no interest either in the conviction or the acquittal of the accused. In this country, however, the prosecution and the defense each place an expert in the field; and the expert for the prosecution being quite as much interested in proving the accused sane as the expert for the defense is in proving him insane, there usually arises a verbal conflict in which each side strives to win the jury over to its view.

The German law is far more representative of the present state of psychiatry. This is shown particularly by its attitude toward the self-accusations of the insane. Not infrequently persons who have been sentenced to severe punishment because they admitted guilt have afterward been proven innocent of the crime and it was then realized that such judicial errors were dependent upon the insanity of the accused. The actual med-

ical state of the prisoner may not be recognized for a long time if his demeanor does not attract special attention or if he knows how to conceal his delusions or hallucinations. It has therefore been admitted that even if no symptoms of disease are apparent and if a superficial examination creates no suspicion of mental disorder, an investigation should be instituted to disclose any latent manifestations of such disease. If mental disease so far developed as to produce delusions and false accusations may remain unrevealed, then surely it must also be possible for individuals in apparent mental health to commit illegal acts as a result of a pathological disorder of thought, feeling or volition which must be regarded as a product of disturbed freedom of determination. Emphasis would therefore have to be laid upon an early diagnosis. The existence of a psychosis, or the disposition to its formation, would have to be recognized even before manifest symptoms had developed. Koch's investigations concerning psychopathically inferior individuals, persons who develop in an apparently normal manner for years and then break down under the stress of increased mental demands, were conducted with this end in view. Later I shall show that such individuals require special care by the State to prevent their efficiency and powers of resistance from being too severely tried in the struggle for existence. Another feature of value in forensic psychiatry has been the discovery that goiter, nasopharyngeal vegetations and other apparently insignificant bodily abnormalities may constitute the starting point for psychic disorder. The studies of Krafft-Ebing and Schrenck-Notzing pertaining to the causes of perverted sexual manifestations have made many unmoral and legally punishable acts receive more lenient consideration. Adequate proof has been adduced to show that the majority of such acts, while not dependent upon a pronounced psychosis, are nevertheless based upon a partial disorder of mental activity. Opinions differ as to how this "partial" disorder should be interpreted. Some writers use this term to convey the idea that the mental life of the individual may be normal in one direction but disordered in another. The majority, however, now favor the view that the designation "partial" should be applied solely to the degree of mental disorder. It is always the entire mental life that is pathologically altered, in one individual to

a smaller, in another to a greater degree. Hence the word "partial" when used in this connection signifies that mental activity is diminished in all directions, while the word "total" covers cases in which mental activity is reduced in all directions to the point of annulment of free determination and of responsibility.

Finally, the recognition that hysteria and other psychoneuroses may develop in the train of a purely psychic traumatism (of course always assuming the existence of a diminished resistance of the brain) has been of great significance in forensic psychiatry.

These retrospective considerations should not be brought to an end without mentioning that no psychiatrist has done so much for the insane person who comes in conflict with the law as has Krafft-Ebing. Whatever influence modern psychiatric studies may have exerted in modifying the law's enactments and their judicial interpretations is due in great part to this investigator's endeavors. But his expectation that the near future would clear up our understanding of certain states which appear as mere moral depravity but are really states of disease, and that subsequent investigations would illuminate our appreciation of the psychic failings that bring about conditions of annulled freedom of determination, have not yet been realized. Possibly we are now upon the threshold of a great advance.

Quite recently psychiatry has gained an ally in sero-diagnosis, which promises to enable us to effect an early differential diagnosis and to detect simulation and dissimulation. For years the examination of the blood has been employed in psychiatry as an aid to diagnosis and prognosis. But I have satisfied myself from innumerable examinations of the blood of insane persons, extending over a period of at least twenty years, that no definite conclusions as to the nature of the existing psychic disease can be attained from the blood state alone. The changes demonstrable by chemical and microscopic or spectroscopic examination of the blood are not sufficiently characteristic to make possible the recognition of a definite psychosis. This fact has been corroborated by other investigations. An exception must be made for the Wassermann test (complement fixation) whose value, however, is a restricted one, as it aids us only in recognizing the psychoses of syphilitic origin. Very recently, how-

ever, Abderhalden of Halle has given us a method which promises to raise the examination of the blood to a most important position in psychiatric diagnosis. He starts from the premise that the blood rejects all foreign or disharmonious substances and accepts only such matters as are harmonious. Under normal conditions only such substances are transmitted to the blood as have already been rendered harmonious by the process of digestion. But it may happen that substances not disorganized, and therefore not assimilable, may enter the blood stream directly by avoiding the gastro-intestinal tract (parenterally). The blood endeavors to rid itself of these foreign bodies (bacteria, toxic products of metabolism, broken-down tissue cells, etc.) through the formation of specific defensive ferments whose office it is to transform the foreign matter into harmonious elements. These defensive ferments make their appearance in the blood as soon as foreign cells effect an entrance, and just as these cells are different in kind, so the defensive ferments differ in nature. The fact that such defensive ferments occur in the blood in cases of psychic disease proves the dependence of psychoses upon bodily alterations. The demonstration of the existence of specific defensive ferments in the blood serum enables us, independently of all clinical symptoms and anatomical changes, to recognize that certain organs are diseased and that their breakdown products have entered the circulation.

Fauser of Stuttgart was probably the first to apply these tests in mental disorders, and his discoveries have been confirmed by other observers. We have much evidence tending to show that in dementia præcox breakdown products of the protein of the brain cortex and of the genital glands, and in dementia paralytica breakdown products of the cortex and of some other organs, are present in the circulation and give rise to protective ferments which may be demonstrated by the Abderhalden method, whereas in none of the psychoses and neuroses known as "functional" and constitutional can the presence of such ferments be demonstrated. Time will tell us how these most promising studies will develop.

Let me conclude my historical introduction by expressing the hope that the modern spirit of medical scientific investigation will maintain this and other theories in a state of activity, and not allow them to become anchored by means of dogmatic atti-

tudes. For I believe I have shown that progress in the growth of psychiatry is possible only if it be prevented from relapsing into the pernicious system of attempting to prove something by means of preconceived opinions which of themselves require proof. Psychiatry has long enough allowed itself to be deceived by captious attempts to explain the causes of mental activity and disorder, not from facts gained by experience but from imagination alone. Observations and experiments have long enough been falsified to make them accord with seductive theories. All this can be avoided in the future, but only if psychiatry continues, together with all other branches of medicine, an unprejudiced exact natural science as it now is.

II

THE NOTION OF MENTAL DISORDER

EVEN a century ago the idea that disease was a state entirely different from that of health was widespread among physicians, as well as among people in general. Disease was looked upon, so to say, as a hostile agent, and not infrequently its presence was attributed to demonic influence. Virchow was the first to advocate the view that processes of disease are manifestations entirely analogous to the normal processes of life, differing from them only in degree. Whether the organism be healthy or sick, respiration, circulation, metabolism and all other vital activities are governed by the very same physical and chemical laws. In sickness conditions have changed, and for this reason the same causes produce different results. It is because conditions are different that respiration becomes quicker or slower, metabolism accelerated or retarded, the heart's action increased or diminished, etc.; and the greater the change in condition, the more marked do these alterations in vital activity become.

There does not exist a sharp dividing line between health and disease. Only when the divergence from health is very pronounced and conditions have changed abruptly, as is the case in acute poisoning or infectious processes, does the contrast become so manifest that it is recognized by every one as a state of disease. Ordinarily, however, conditions change so gradually and health passes into disease so imperceptibly that, at a certain period of the transition, even the experienced physician is unable to determine with certainty whether the person's state of health is still normal or whether it has already overstepped the bounds of the pathological. Because the change from health to disease usually takes place in every individual by intermediary stages, there can exist no gage by means of which we can accurately distinguish a healthy person from one who is sick. This is true especially because there are no two

individuals who accord completely in the conformation of their bodies or whose vital processes functionate in precisely the same manner. What we call "normal" is by no means a fast and inalterable state, but a notion which changes within widely varying bounds. We know that the adult breathes about eighteen times per minute, that for each respiration he averages four beats of the heart, that the temperature of the human body is 98.6 degrees Fahrenheit, that one cubic centimeter of blood contains about five million red blood corpuscles, etc. But we also know that there are persons in whom the normal pulse rate is fifty-five while in others it is eighty-five beats per minute, and likewise that individual variations from the average measures applying to other so-called normal organs are known to occur. The functions of the body cease to be physiological and become pathological only when they are discharged in excess, at an inappropriate time or in an inappropriate place. There can be no exact boundary line between the physiological and the pathological. In a general way, we can say that only pronounced deviations from the average values must be called pathological. If, for instance, we assume the number of erythrocytes per cubic centimeter of blood under physiological conditions to vary between 4,500,000 and 5,300,000, then a single blood corpuscle per cubic centimeter below or above these limits would theoretically have to be considered abnormal. The absurdity of making one blood corpuscle more or one blood corpuscle less per cubic centimeter a measure of health or disease is self-evident.

We can do no more than generalize and say that the closer the approach of the functions of a person's organism to average value, the nearer he is to a state of health, and that the more these functions deviate from such average values, the more does he approach a condition of disease. It is quite as impossible to make a precise distinction between healthy and sick individuals as it is to divide the human race into two categories, the intelligent and the stupid.

The "normal type" is a fiction of our own making. Taking this "normal type" as representative of what should be, and by comparing each individual with this fictitious standard, we are able to differentiate three classes of human beings, viz.: the unreservedly healthy, the unreservedly sick, and those indi-

viduals representing the numerous intermediary grades, which, as the case may be, are nearer to health or nearer to disease. These "borderline states" must never be judged by individual symptoms. It is entirely unimportant whether there are present a few blood corpuscles more or a few blood corpuscles less, or whether the pulse beats are slightly more frequent or slightly less frequent. Such symptoms derive their significance only from their relations to the efficiency of the entire organism. A scientist not accustomed to muscular activity may be healthy, notwithstanding his inability to lift a weight of one hundred pounds, while a laborer unable to lift such a weight would have to be considered sick. Not every deviation from the normal should be called pathological, but the individual peculiarities must in every instance be considered before judgment can be passed. On the other hand, a person may be the very picture of health, may subjectively feel perfectly well, and may nevertheless be afflicted with some serious organic disease.

Hence we must recognize the important fact that health and disease are not antithetical but represent the same vital processes under different conditions. Nature distinguishes no classes, but only individuals, each one of whom has his peculiarities and no one of whom completely resembles another. Health is that state in which the activities of life are equally balanced, while disease is a disturbance of such equilibrium, single functions preponderating to the detriment of others. This disturbance may set in abruptly and violently, or it may develop slowly and imperceptibly. Where the resisting powers of the organism are adequate, it may, notwithstanding a stormy course, disappear rapidly; and where no power of resistance exists, it may lead from insignificant beginnings to permanent functional impairment. It may affect organs of vital importance or others of lesser consequence. What is of moment and decisive in all these grades and divisions is not the individual symptom but the total efficiency of the organism. One organism will adapt itself to the altered conditions without incurring any material disorder in its vital activities; another will respond to comparatively slight changes by most severe disturbances of function. Thus it becomes clear how difficult it may be for even the trained expert to determine whether a certain bodily state should be considered normal or

pathological, or to decide whether it occupies a borderline between health and disease.

All these considerations concerning bodily disease may be applied without change to the conditions obtaining in the psychic domain. Just as the notion of bodily disease can not sharply be defined, it is impossible to give a precise definition of mental disorder. The psychic field, like the physical one, consists of individuals and not of classes of individuals each having specific characteristics. Imperceptible intermediary stages lead from unquestionable health to well-defined mental disease, so that it is often very difficult to determine whether a person is psychically normal or psychopathic.

This difficulty of classifying disorders of mental activity is even greater than that of classifying disturbances of bodily function, for notwithstanding the great progress made by neuropathology, it is as yet much more difficult to determine the presence of anatomical lesions in diseases of the brain and nervous system than it is to discover them in pathological alterations of other organs.

For the present, therefore, modern medicine must be content with the notion of purely "functional" diseases, disorders not based upon any structural tissue changes. Theoretically we must admit that every disturbance of health, whether of psychic or physical nature, is dependent upon somatic changes. An organ whose structure is normal will functionate normally, and whenever it does otherwise some structural tissue change must exist. This does not signify, however, that a demonstrable alteration in structure must precede every change of function. The process may apparently be reversed so that an organ, for instance the heart, may be overworked, and then can no longer functionate in a normal manner. But even when the functional disturbance has preceded the anatomical injury, the principle that the latter constitutes the basis for the former must be maintained. Over-exertion of an organ carries with it an immediate alteration of tissue structure, which is followed by an alteration in function. It is, therefore, always the organic change which carries the functional disturbance in its train.

With our present methods of investigation, we are very frequently unable to demonstrate these organic changes. Consequently the impression may be conveyed that no actual disorder

exists but that one is being simulated, or while admitting the existence of actual disorder, we are likely to conclude it cannot be structural but must be of purely functional nature. If it were correct to assume that a normal organ might functionate abnormally, it should be equally correct to assume that an organ which is pathologically altered may functionate normally. This never happens. When, for instance, a valvular heart lesion becomes compensated through hypertrophy of the heart muscle, this does not mean that the organic change has become an unimportant factor in the heart's activity. A heart thus affected may remain efficient for many years, but as a matter of fact it does not functionate normally and for that reason its muscle must not be taxed to the same extent as that of a healthy heart.

From the foregoing discussion, it is clear that purely functional disorders, entirely unrelated to any alteration of tissue structure, do not exist. Every functional change must correspond to some organic alteration, or vice versa. Even such common symptoms as headache or constipation must have some material basis. Frequently this is demonstrable by means of the physical or chemical methods of examination at our command, or, when these fail us, we are obliged to assume that the structural changes in tissues and cells are so infinitesimal as to be undemonstrable by means of any of our reagents, instruments or apparatus.

Sometimes the functional changes are essentially due to disorders of innervation—that is to say, the organs in themselves are healthy but receive false impulses through the nerves that regulate their activity. In other cases, nutritional or circulatory disorders may be present, or the tissues may be compressed by a pathological increase of physiological fluids (for instance, the cerebro-spinal fluid), or the vitality of the cells may have been diminished by the resorption of toxic metabolic products. In these and similar instances every endeavor to demonstrate the existence of anatomical lesions may fail. The essential point always must be to determine the extent to which the efficiency of an organism, the power of adapting itself to the extraordinarily changeable demands of life, is being impaired by the existing disorder of function. We now know that mental activity is nothing but a function of the brain cells and therefore

that psychology is but part of the "physiology" of the central nervous system. Notwithstanding the certainty that the tissues of the brain and nervous system condition all mental activity, we are seldom able to demonstrate the material basis, the structural changes in the tissues of the brain and nervous system, upon which disorders of mental activity depend. Even the autopsy will usually reveal only those structural processes and gross brain changes which are characteristic, for instance, of dementia paralytica, idiocy, etc. In persons who for years have suffered from severe neuroses and psychoses, neither during life nor in death are we able to find any evidences of tissue changes that would explain the disorder of nerve function. This usually normal brain finding constitutes one of the greatest obstacles to a clear understanding and classification of mental disorders. Needless to say, this brain finding is only apparently a normal one—as a matter of fact, organic changes corresponding to the disorder of function must be present, but we have not been able to demonstrate their existence.

While it is certain that psychoses have their material basis, it would be an error in the majority of instances to draw any deductions in regard to the degree or nature of an insanity from the amount of tissue changes subsequently found. It would be equally erroneous for us to rely for this purpose upon single symptoms, the value of which, after all, is dependent upon the sum of the individual's peculiarities. We can estimate the gravity of a mental disorder only in the same manner as we do that of any bodily disease—that is, by testing the extent to which defective function has disturbed the equilibrium of vital activities. But while our conception of bodily disease will depend upon the clinical symptoms combined with the alteration of tissue structure, our conception of mental disórder as a rule will have to be based upon symptoms alone.

For a time "degenerative signs" played a large rôle in forensic psychiatry. Certain physical anomalies were held to indicate the existence of psychic abnormalities. Numerous observations have shown, however, that aside from an abnormally small skull, which of course must contain an abnormally small brain, these "degenerative signs" are very unreliable. Such "stigmata" may be present in persons who are psychically entirely healthy, or may be completely absent in markedly psy-

chopathic individuals. We shall do well, therefore, to rely as little upon any "degenerative signs" that may be found as upon the structural changes of the brain which, although they constitute part of the psychoses, we are unfortunately unable to see.

From eccentricities of character to paranoia, or from excited exhilaration to maniacal furor, the distance is long and the intermediary steps are numerous. Should we consider every person abnormal whose psychic demeanor differs from that of his companions? Certainly there could be no more serious error! In the psychic domain especially it is not a question of individual peculiarities and deviations, but of the entire personality. A mental manifestation which in one individual is still entirely normal, in another may be very suspicious. The methods of people in expressing their feelings, painful or joyous, differ exceedingly. Neither exaggeration nor marked repression of feelings of pleasure or displeasure is in itself pathological. A certain degree of emotion in one individual may be pathological, while the same degree of emotion might not even approximate another person's normal average. Normal manifestations often pass most gradually into mental disease. Not infrequently the depression of melancholia is based upon actual occurrences. Normal grief concerning a serious loss or a great misfortune may constitute its beginning, and it is the exaggeration of the emotion that finally reveals its pathological character. But at what point are we warranted in designating the emotion as exaggerated? Where do the natural expressions of pain and joy cease to be normal? Where does anxiety begin to be pathological? All this can be decided only by a study of the particular case and by carefully considering, in connection with other individual peculiarities, how far the total psychic accomplishment has deviated from its average efficiency. Particularly in education has the neglect of individual peculiarities been the cause of grievous errors. The burden forced upon society by the incompetents, those who are worthless in practical life, is often due only to errors of training. The older pedagogy recognized but one plan of instruction and training, the one adapted to average capabilities, and took no cognizance at all of individual peculiarities. Many children are constituted differently from their companions of equal age, but they must not

be considered abnormal for that reason alone. Because children of this type could not adapt themselves to the general mold, the older pedagogy regarded them as incompetent and worthless. It was not deemed worth while to lose time on such children or to study their mental lives. Not infrequently, to the astonishment of every one, these "peculiar" individuals in later life became very useful and sometimes renowned members of human society. I need but refer to Liebig, who was considered a ne'er-do-well in school, and for whom his teacher prophesied a bad ending. His instructor did not surmise that the genius of a natural scientist slumbered within him, nor were the prevailing methods of training calculated to bring to light the endowment he possessed. Had Liebig not accidentally come into surroundings which favored the development of his undiscovered talent, he never would have attained eminence as a chemist. By way of contrast, it should be noted that so-called model pupils, who have conformed in every way to the school regulations, often fail to gain even average success in later life. Model pupils are not necessarily distinguished by unusual endowment. Children with more than ordinary capabilities are usually the ones whose nature will rebel against the restraint of a system of instruction modeled according to a preconceived plan. The more marked a pupil's individuality, the greater the difficulty he will experience in adapting himself to a predetermined mold. Conversely, the less pronounced the individuality, the more easily will such adaptation be accomplished. Model pupils are often the very ones whose intelligence is only just sufficient to meet the demands of the school; and any talent they may possess becomes dwarfed through lack of opportunity for growth, unless perchance that talent happens to come within the scope of the instructional plan.

More often we will find that children without any talent whatsoever will exert themselves beyond their capabilities. In order to keep pace with their companions they will fulfil all their obligations, allow themselves no recuperation, and even sacrifice their rest at night. For such children, the school's demands, which can be met without difficulty by the child of ordinary capabilities, will represent an overtaxation which causes suffering or a breakdown, and notwithstanding their apparently nor-

mal efficiency in school, they will become "unfit" to withstand the struggle for existence.

Forensic psychiatry is frequently called upon to pass judgment upon individuals whose conflict with the law is essentially attributable to misdirected education. As a rule this problem is encountered in cases of juvenile delinquents who, when at school, did not fit into the general schedule. Either they rebelled against restraint, or they learned nothing because the method of instruction made no allowance for their individuality, or permanent injury to the nervous system was caused by the overstrain to which it was subjected. So long as persons subject to such misfortunes remain guarded and protected against the stress of stern reality, their deficiencies may remain almost or entirely unrevealed and their life may be peaceful. But as soon as they are obliged to depend upon their own resources, to provide for their own existence, they encounter demands for which they are unadapted. Being unable to succeed against efficient competitors, they cannot find permanent occupation, they sooner or later encounter want and misery, and thus enter upon a downward path which not infrequently leads to transgression of the law.

In many cases such unfortunate occurrences could have been avoided by proper education. The manner in which experimental psychology has enabled the teacher to recognize and to treat the individuality of his pupils has been explained in my book on "Child Training." At this place I would merely indicate that it is not the lack of space in the world for persons of strong individuality that brings about conflicts with the law. Almost every person has an individual natural disposition by means of which he can be of service to those about him; every capability fades and dies when not developed by use; the art of training must not confine itself to the development of pronounced talents, but must endeavor to discover and cultivate the hidden natural qualities which every person possesses. No matter how much a person may deviate from the average, no matter how backward he may be in mental efficiency, he will usually be found to possess some quality that may be utilized in an active serviceable manner. The man who is able properly to wield an ax and a shovel is of far greater cultural value than the educated idler. There is room in the world for every

individual capable of doing useful work. Conflict and struggle are due essentially to the fact that many persons follow pursuits for which they are not adapted. Through erroneous training they are forced into paths which run contrary to their nature and which give to their lives an entirely false direction. Thus it may well occur that a person on the boundary line between mental health and disease may gradually become pronouncedly psychopathic, while early recognition of his individual peculiarities would have protected him from many deviations. It is always the "borderline cases" that are so hard to recognize, and not the easily determinable psychoses, that lead to the serious and irremediable errors so readily committed by indiscriminating pedagogy.

But in the domain of jurisprudence, too, the disregard of individual peculiarities has often caused the most dire error; and this applies more particularly to those Anglo-Saxon countries whose statutes are still based upon the assumption that a person is either mentally healthy and entirely responsible, or else insane and entirely irresponsible. That between these two extremes there exist gradations, each characterized by a greater or lesser restriction of free determination of the will and responsibility, is a fact which has not yet been recognized to any extent by Anglo-Saxon jurisprudence. Even when it has been demonstrated that a particular case is one occupying the borderline, being neither normal nor distinctly pathological and in which therefore responsibility must be assumed to be attenuated, a judge under existing laws will be placed in the difficult position of having to decide either for mental health and entire responsibility or for insanity and total irresponsibility. In the first instance the decision would be too lenient, in the latter too severe, and yet it might have to be given against the judge's moral conviction. The difficulties of the question are enhanced by an almost insuperable general prejudice which insists that because an accused person apparently reasons logically and acts with premeditation he can not be insane. Under the circumstances many a person with marked mental defects will be considered healthy, while others without any mental defect, but merely constituted differently from the majority, will be considered insane.

From what we have said, it should be clear that the notion

of mental disease cannot be definitely restricted but must be extended so as to give due consideration to those numerous transitional states which at present have no significance from the layman's viewpoint.

III

PSYCHOPATHIC DISPOSITION

THE preceding chapter has shown us that there exists a parallelism between all bodily and mental manifestations of life. The notion of sickness, whether in the physical or psychic domain, cannot be strictly circumscribed and the boundary line between health and disease is always inconstant. Whether a particular person is healthy or sick cannot be established by a comparison with a "normal type," but only when considered in connection with his own general capability. We cannot estimate the seriousness of a disease from the extent of the anatomical lesion involved, because in many instances, though more often in mental than in physical disorder, no deviation from the normal can be recognized in the structure of the tissues. Nor can we draw any conclusions regarding the gravity of a disease from the intensiveness of the subjective complaints, since, for example, so harmless an affection as toothache may cause the utmost pain, while, on the other hand, diabetes, chronic nephritis, dementia paralytica and other serious diseases frequently produce but little subjective disturbance.

Our main consideration should be to determine to what extent the efficiency of the organism has been disturbed by the disordered function. It would be going too far to say that every grown person must be able to lift a weight of one hundred pounds to a certain height in a certain length of time; or that unless a person of normal intelligence is able to understand the Darwinian theory, he is deficient. On the other hand, if a man who has always been able to lift a one-hundred-pound weight from the floor to the table suddenly loses power to do so, we may designate him as sick; or we may designate a brain as diseased if, after having been able to solve the most intricate problems, it suddenly becomes incapable of comprehending the simplest matters.

In a determination of disorder of function, the question is

essentially one of the extent to which efficiency has been reduced, as compared with its former self. Such a test is of value only when we consider whether the task demanded of a person is one which is adapted to his individuality. We should always bear in mind the fact that many persons fail only because their conditions of life are unfavorable ones and they are obliged to carry on an occupation repugnant to their proper personality, while under favoring circumstances they would have been perfectly able to fill their places in society. These governing principles, the guides of modern pathology and psychopathology, should be indelibly graven upon the memory of both physician and jurist.

Ordinarily, two factors are essential for the causation of disease: First, a pathogenous cause, and, second, a predisposition to disease. In exceptional cases a pathogenous cause (for instance, a potent poison) is sufficient in itself to produce disease or even death. But even in such cases, the individual resistability plays a part, for although conditions may otherwise be similar, one individual will become more easily affected by the disease-producing agency, or will succumb sooner to its action, than another. On the other hand, predisposition alone never produces disease. In fact, in favorable environment predisposition may remain latent throughout a person's entire life. Ordinarily, however, as every person is obliged at some time or other to assume obligations which require more or less effort, and which then may constitute conditions unfavorable to him, a predisposition to disease rarely remains concealed for any protracted length of time. The fact that different individuals react differently to serious injuries can be understood only when it is assumed that the powers of resistance and the adaptability to altered conditions of life vary in different persons.

To a certain extent man possesses the capability of equalizing alterations in his conditions of life by changes in his vital activity. Were this not so, there could be no healthy persons, for in consequence of change in climate, food, work, etc., our conditions of life are constantly varying. This power of adaptation, however, is possible only within certain definite limits. Once those limits are passed, the organism responds to variations in its conditions of life by pathologic disturbances. The resisting power of an individual is another expression for the

limits within which variations in his conditions of existence may take place without disturbing the normal processes of life. When the power of resistance is so reduced that very slight injuries are sufficient to disarrange the balance of vital activity, we speak of a predisposition to disease; where the disarrangement is one of psychic activity, we speak of psychopathic taint.

A predisposition to disease is of decisive significance not only in relation to the production of a disease but also to its course. A strong and virile organism actively defends itself, the feeble one remains passive. But we must not, as was formerly done, consider the predisposition to disease a fixed and unalterable element, always dependent upon congenital peculiarities. On the contrary, it is a variable factor which can be better understood only by subdividing it into its various parts. When we attempt to do this we again learn that the altered states which we call disposition to disease can be measured as little by unyielding formulæ and rules as can the concepts of health and disease. Each must receive entirely individual consideration. Disposition to disease must be divided into that which is congenital and that which is acquired. Frequently the idea of congenital disposition is confounded with that of hereditary taint. It is only possible to inherit something which has existed in the ancestors. A disposition to disease, however, may be congenital although not a trace of it is discoverable in the ancestral tree. In fact, a child may come into the world not only with a disposition to disease but with a disease already developed, and we may not be able to trace this disease in its parents or other forebears. In such a case the predisposition, or the disease itself, is dependent upon injuries which have taken place during intrauterine development or during the act of parturition. Inherited predisposition to disease is therefore always congenital, while congenital predisposition is not necessarily inherited. The point to decide is whether the germ plasm was already damaged at the time of procreation or whether the damage took place only after impregnation.

I would also emphasize the statement that the phrase "disposition to disease" relates not to evident organic changes but to diminished resistibility. For example, in the case of a child born with clearly pronounced syphilitic disorder, or with an

abnormally small skull and brain, there can be no question of a predisposition, but the child must actually be considered as afflicted with congenital disease. Nevertheless, I admit that just as it is impossible to draw a sharp dividing line between health and disease, so between predisposition to a disease and the disease itself no sharp line of demarkation can be drawn—a fact which is clearly exemplified in many diseases of the brain and nervous system in which the predisposition passes over without discoverable organic changes into disease itself.

Predisposition to disease may therefore be defined as a relative weakness of the constitution of the body, which enhances the susceptibility of the entire organism to disease-producing agencies. The disposition itself may remain entirely within normal confines, so that under favorable conditions the individual may remain healthy throughout his entire life. The disposition to disease acquires its pathological stamp only when the ordinary stimuli against which the normal organism should be prepared are already capable of causing disease. The transmitted weakness may involve a particular organ, as for instance the brain, or it may extend to the entire constitution; for this reason a disease which has been present in the ascendants need not appear in the descendants, although all of these may have inherited their ancestor's predisposition.

The disposition to disease plays an important rôle not only in many anomalies of metabolism (obesity, diabetes, etc.) and infectious processes (tuberculosis, etc.) but also in nervous and mental diseases. Man's brain, like the rest of his organs, possesses a certain average efficiency in order that he may meet the ordinary demands, but in addition it possesses a certain amount of reserve force for use under exceptional conditions. Some individuals may persistently make the greatest demands upon their central nervous system, may even commit great excesses without in any way sacrificing their mental efficiency. They appear to be immune. Others again—and these constitute the majority—become markedly fatigued through brain work. If, at the same time, they are psychopathically predisposed, a few emotional shocks will often suffice to upset their mental equilibrium. We must therefore differentiate between two main types of cases: First, those in which there exists from birth merely a predisposition to disease, and in which disease itself

develops only under the influence of other injuries which a more robust constitution would have withstood; and second, those in which not only the disposition to disease, but also pathological alterations, have existed from or before birth, and in which disease develops without the aid of any exogenous cause. Between these two main classes there are numerous transitional and mixed forms.

When the disposition to disease is an inherited one, two conditions, as already indicated, must coexist: First, one of the ancestors must have had the same disease or a predisposition to its development; and second, the transmission to the descendant must have taken place through the parental germ plasm.

We can see, therefore, that the existence of inherited predisposition cannot be determined merely because the particular disease is present in both parent and child. A disposition to disease may be congenital and may have been transmitted through the parental germ plasm, and yet there may be no question of heredity. For instance, if the descendants of an insane alcoholic have a congenital predisposition to mental disease, this predisposition would not necessarily be an inherited one, in case the progenitor himself had no such predisposition but had acquired his insanity as a result of his alcoholic excesses. In this example the origin in the descendants of the predisposition to mental disease can be comparatively easily explained. The abuse of alcohol caused a poisoning not only of the brain cells but of the other germ cells as well, and as a result the tissues and organs which they produced became inferior and less resistant.

According to Lubarsch the foregoing process is analogous to that which obtains in the disposition to phthisis, so often found in the descendants of tuberculous parents, even when the latter had originally not been predisposed to tuberculosis. The germ cells of the parents become damaged by the poisons that have been generated by the tubercle bacilli, with the result that the children are weak and consequently more susceptible to a tuberculous infection. We must assume that the material that constitutes the germ cell is not entirely uniform throughout, but is differentiated according to the various organs or tissues for whose formation it is destined; and that the individual parts of the cell, even in their undeveloped state, possess a varying

receptivity for the poisons which act upon the entire germ plasm. Hence we can understand why the offspring of an insane alcoholic possesses an unresisting brain; and why the offspring of tuberculous parents are constitutionally susceptible to tuberculosis or are deficient in some other way. It seems to me to be quite as comprehensible that damage to the germ, whether due to the father or the mother or to both, whether occurring during the act of procreation, or subsequently through the placental circulation, will in some cases inhibit the development of certain organs only, and in others will involve the entire constitution. On the other hand, it is difficult, if not entirely impossible, satisfactorily to explain why bodily and mental peculiarities are transmitted through entire generations, and why this transmission should always be conditioned upon two cells only microscopically recognizable, the egg cell and the sperm cell. Our comprehension of this phenomenon is still further obscured by the fact that influences affecting all the numerous and complicated bodily and mental dispositions are crowded together into so small a space.

It is just as difficult to understand why inherited qualities appear for a certain time in an ancestral tree and then seem to vanish only to reappear later. Certain dispositions to disease often skip several generations before they again assert themselves. This happens even when the condition of life for all the generations involved has apparently remained unaltered. Why does the disposition to disease remain "latent" in the one instance and develop in the other? The only answer that can be given to this question is that, after all, the conditions of life must have become changed. This remarkable empirical fact, moreover, applies not only to the hereditary transmission of pathological qualities but also to the transmission of serviceable qualities. Scholz believes the entire world would be a home for chronic invalids if only the degenerative ones could be hereditarily transmitted. Hence it would appear that a balance is maintained which prevents a too extensive degeneration of the human race.

Upon the basis of the laws of heredity as studied upon plants by Johann Gregor Mendel, and as a result of the application of his methods by others to determine the laws of heredity among animals, we know it is not chance but a law of nature which

causes any particular quality to remain constant in certain species, and which causes certain qualities at one time to appear, and at another to disappear.

The application of the Mendelian law to human heredity and development of physical traits necessarily followed, and it is now in the highest degree probable that the hereditary transmission of psychic properties will also be best understood in the light of this law. Whether it can purposely be utilized, however, to eradicate degenerative qualities and to cultivate regenerative ones by proper selection of the germ cells during the copulative act is a question which cannot even approximately be determined.

A psychopathic taint is not necessarily always congenital or inherited, but may be acquired in later life. In such cases it is dependent upon the weakening of psychic energy, which so often is found to follow exhausting disease. While there are infectious processes which render the person who has withstood them for a long time immune to infectious germs of the same kind and more resistant generally, it is also true that recovery from those infections is often accompanied by a diminished resistibility of the brain.

The intrinsic noxious influences (syphilis, alcoholism, morphinism, etc.) which produce psychoses even when no congenital or acquired psychopathic taint exists, must be considered separately, and will receive attention in the following chapter. It is worth referring to them at this place merely because the predisposition to disease and the consequent increasing susceptibility to the influence of pathogenic influences produce a soil most favorable to the growth of neuroses and psychoses. In such cases the central nervous system is the *locus minoris resistentiæ.*

The question whether an acquired disposition to disease may be hereditarily transmitted is one closely allied to that of the possibility of the hereditary transmission of acquired peculiarities. Some investigators, for instance Weissmann, positively deny that this can happen. But if it be true that a constitutional anomaly, a "habitus," alone can be transmitted, then we cannot understand how this habitus could have originated in the first place. Scholz characterizes the constitutional anomaly as the persisting property which has become an essential part

of the individual, while he calls abnormality an accidental transitory property. But at what point do abnormality and anomaly separate? At one time or another the anomaly must have been acquired. Some one generation must have had impressed upon it some morbid peculiarity which preceding generations did not have; and if these abnormalities could not be transmitted to the descendants they could never have become stable, could never have become a permanent part of the constitution, could never have become an anomaly.

That acquired qualities can be hereditarily transmitted seems to be proved by the comportment of our immigrants. They bring with them qualities which were serviceable ones in their old homes but for which in their new place of abode they have no use. Under the influence of the foreign surroundings these qualities are gradually cast off and new ones are acquired by means of which the individuals adapt themselves to the altered conditions of life. These newly acquired qualities usually become stable in the second or third generation, a proof that they have become hereditarily transmitted. But what is true of normal qualities must also be possible for pathological ones. Of course mutilation resulting from injury, as for instance the loss of an extremity, cannot be hereditarily transmitted to one's descendants. For that reason, notwithstanding all his exact laboratory experiments, Weissmann was never able to produce a tailless species of mice by cutting off the tails of many generations of new-born mice before allowing them to breed. But from the examples of the insane alcoholic and the tuberculous individuals, mentioned above, it must be evident that previously healthy individuals who have acquired certain peculiarities through disease can transmit those peculiarities to their offspring.

In this connection the experiments of Stockard are peculiarly interesting. In his studies of the effects of alcohol upon heredity he has been able to show that the inhalation of the fumes of alcohol can so injure the male germ cells that even in mating with strong unalcoholized females the offspring will be defective. Moreover, he has shown that these offspring, upon reaching maturity, are usually nervous and slightly undersized, and that the injury of the germ cells is not only manifest in the immediate offspring but also in their descendants for at least three

generations. In one instance two of four young guinea pigs were completely eyeless, the eyeballs, the optic nerves and chiasm being absent, and neither the parents nor the four grandparents but only the great grandfathers and not the great grandmothers had been subjected to alcoholization.

In my opinion the decisive point is whether the acquired peculiarity has become part of the person's nature, so that the germ cells also have become influenced by it. This, for instance, would not be the case in the event of single alcoholic excesses but would be so in chronic alcoholism; it would not be so in acute disease but would be so in a chronic decline. But that acquired peculiarities may become habitual in a few years, and therefore that it would by no means require generations in order to transform an abnormality into an anomaly, is shown by the fact that peculiarities accidentally acquired often alter a person's entire individuality.

IV

EXOGENOUS CAUSES OF MENTAL DISEASE

THE layman as a rule believes the exogenous causes of insanity to be those happenings which have immediately preceded the onset of the mental disorder. Yet we know the mental disorder would not have become manifest had the brain not been a deficient one, either from birth or for a long time preceding the outbreak. In general it may be said that psychic shock or bodily disorder of itself will not produce insanity. Every mental disorder requires for its production a reciprocal influence, which in the majority of instances consists in a cooperation of various factors. According to the existing degree of hereditary taint, the brain will become more or less seriously damaged by equivalent extrinsic causes. In other words, a markedly deficient brain will lose its balance in consequence of very slight causes, while a more robust central nervous system will easily resist these same influences and will break down only under great pressure.

Just as there is no absolute immunity to physical disease, so there can be none to mental disorder. Just as there are infections and toxic influences to which even the healthiest organism must succumb, so it is possible for a person without a trace of inherited taint to become mentally diseased. In such instance, however, much more severe and hurtful influences must cooperate before the breakdown can occur. Savage remarks that general paresis is almost unknown in the Scottish Highlands, as well as in the country districts of Ireland and Wales, but, he adds, it would be an error to deduce that an immunity exists for the people living there, for, as soon as these simple folk leave their homes to settle in large cities, their apparent immunity is broken down under the exhausting life of their new surroundings. The factors which in this instance cooperate to cause the breakdown are syphilis, aided by the restless over-

activity of modern life, insufficient relaxation, and the excesses of eating and drinking.

Similar observations may be made in relation to all people still living in the state of nature. In them pronounced insanity is encountered very infrequently. This, however, is so not because they are immune but because of other easily determinable reasons. Some of these peoples, as the Indians of Northern Canada, put their insane to death; others, even more inhumane, leave them without protection so that sooner or later they must perish. If the alleged immunity of savages be put to the test by exposing them to the same damaging influences which customarily produce insanity in civilized peoples, it will be found that they are no less susceptible. Were they really immune the changes of environment alone would not be capable of producing insanity, since thousands of people are daily able to maintain themselves under unaccustomed conditions without suffering any noticeable impairment of mental integrity.

Racial immunity, or any other congenital insusceptibility to mental disease, therefore does not exist. In a general way, in comparing two persons equally free from inherited taint and each possessing a normally resisting brain, we can only say that the one who lives by his muscles will be in less danger of becoming insane than the one who lives by his brain; and, to carry the contrast further, that life in the country exposes people less to mental disorder than does life in the large cities with its nerve-racking struggle for existence and enervating life of luxury. People occupied in farming tend less to the development of insanity because the demands made upon their brains are less, and because they are less tempted to give up to injurious forms of amusement the time that should be devoted to sleep and recuperation.

Moreover, the development of the body is usually less hampered in farming centers than it is in large cities. Children brought up in the country need not acquire the amount of school learning demanded of city-bred children, and hence they are started at work much earlier. The city-bred child, though advanced in school learning, will often be backward in physical development and consequently will be less fitted for the struggle for existence. Of what use are our child labor laws if, while protecting the child from the ill effects of premature

physical exertion, they cause it to be overburdened in school work? That country children usually show the better development certainly speaks for the fact that mental overburdening is more harmful than bodily exertion. Moreover, the circumstance that the farmer, although actually working harder than the factory hand or city business man, much less frequently sacrifices his mental stability, proves that the disposition to mental disorder grows with the complexity of extrinsic conditions. The truth of this statement is also corroborated by an analysis of the statistics of suicides. These teach us that suicide in both sexes is proportionately more common in cities than in the country, and in large cities than in small ones. In the latter the proportion is almost twice that of the country.

Environment and pursuit, therefore, are among the most important extrinsic productive causes of mental disease, for unfavorable conditions of life will promote a disposition to mental disorder, even when no trace of inherited mental taint exists. On the other hand, as I have already said, it is very possible that under favorable environment a psychopathic taint of slight degree will not develop but will remain latent. Hence a person may remain healthy though primarily disposed to mental disorder, while on the other hand a person possessing a congenitally healthy nervous system may become insane.

The condition of life which must be considered "favorable" or "unfavorable" cannot be precisely defined. Whatever is adapted to a person's individuality is favorable; whatever is opposed to it is "unfavorable." What is "favorable" for one person may be "unfavorable" for another. Thus, as I have shown upon another occasion, the question of school overburdening is an entirely relative one. The same instruction that represents an excellent means of developing the mental faculties in a talented pupil may be a source of psychic disorder to a pupil of less endowment. Similar conditions govern the environment in which chance has placed us. Whatever our atmosphere, life makes a certain demand upon us, and what one person can accomplish with the greatest ease may be an insupportable burden for another. It is not alone the magnitude of the demands that stamps the surroundings as favorable or unfavorable, but the fact of the individual's capabilities being adequate for the fulfilment of the allotted task.

When a person becomes insane, though without any inherited predisposition and in the apparent absence of extrinsic causes such as head injury, infections, etc., the question will naturally arise whether the breakdown is not the result of persistent overexertion. That the same amount of exertion in another person would constitute merely an exercise of his normal activity does not of course answer the question. A person is not necessarily inferior because a certain task that another can accomplish with ease is beyond him. His own endowment merely lies in another direction. But it has already been shown that persistent suppression of a person's individuality by constant work in a field which has no attractions for him may ultimately lead to a breakdown. Nevertheless such instances are comparatively infrequent. As a rule the external conditions of life (environment) create a disposition to insanity only when the central nervous system has already been an inferior one. This also holds true for other extrinsic causes. There are innumerable persons who are in constant combat with disturbances of all kinds, who are tortured by grief and trouble, pursued by misfortune and harassed by disappointment, and who remain mentally healthy in spite of all these mishaps. Innumerable persons have sustained injuries to the head and have passed through exhausting disease without losing their mental balance. Furthermore, how many persons are there who commit all kinds of excesses in Baccho and in Venere and, who even though they may have infected themselves during their debauches, still maintain their psychic efficiency? And how many who, notwithstanding a generalized arteriosclerosis, remain mentally alert into the most advanced age?

If of two persons of equal age, both arteriosclerotic, but otherwise well, one goes into a state of mental decline while the other remains mentally active; if of two persons who become syphilitically infected one develops paresis while the other never shows any other than the physical symptoms of the lues; if of two chronic alcoholics in their alcohol-free periods one becomes mentally disturbed while the other remains mentally clear; if of two persons who pass through a carbonic oxide intoxication, a typhoid or some other exhausting disease the one becomes apparently demented as a result of his illness while the other retains his complete mental integrity—then the different effect

of one and the same cause in the various patients can be explained only upon the assumption of the existence of a different resistibility of the brain. In the one person the brain constitutes the *locus minoris resistentiæ,* the weak point, which cannot withstand the attack of the disease, while in the other, the brain is to a certain degree immune. Were this not so, then the same damaging influences should have the same influence upon the brain in all of them. We must, therefore, reach the conclusion that in general neither a psychopathic taint in itself, nor an extrinsic cause in itself, will be sufficient for the production of insanity but that both must cooperate to bring about this result.

Dissipation as a factor in the production of insanity represents for our consideration a special *circulus vitiosus.* It is admitted by most psychiatrists that a person does not become insane because he leads a dissipated life, but he becomes dissipated because he has an abnormal brain. The healthy organism revolts against an excess of any kind, but we must bear in mind that what constitutes an excess for one individual may well represent a normal limit for another. Alcoholic abuses and sexual aberrations carried to an unnatural degree point with certainty to an abnormal brain. The more a dissipated life undermines the psychic powers, the more will the abnormal brain crave new stimulants, the supply of which in turn will aid in producing ruin of body and mind until, finally, complete collapse ensues. This same disastrous mutational activity may be noted in regard to masturbation. He who gives himself up to unbridled masturbatory excesses has an inferior nervous system, as also have homosexual individuals. Even when the dangers of their transgressions are explained to them, the persons so addicted are unable to master their passion. The inferior nervous system is the cause of a pathological weakness of the will which cannot be overcome by a recognition of the evils produced by the dissolute mode of life; and following the diseased impulses with less and less resistance, the damage to the nervous system grows apace and the loss of will power becomes greater and greater.

The statement that extrinsic causes alone generally do not suffice to produce psychic disease is of fundamental significance for an understanding of the origin and development of such dis-

order. I admit that exceptionally the most resistant brain may be permanently weakened by overexertion, emotional excitement, and bodily disease which also involves the brain and its membranes, but we must not retreat from the position that in the great majority of instances the extrinsic causes could implicate the brain only because there they found a vulnerable point of attack. Where this *locus minoris resistentiæ* is wanting, the brain under entirely similar conditions will remain unaffected. Etiologically, therefore, stress should be laid not upon extrinsic causes but upon the psychopathic taint. The latter constitutes the most favorable basis for the development of pathogenic influences.

In another part of this book we shall see how apparently remote causes, for instance pregnancy or parturition, may produce functional disturbances of brain activity. At present I would but recall that it is not alone the conflict with law or morals that determines the presence of a psychosis, but in the majority of instances the first signs of mental disorder may be traced back to a time when the patient still complied with all social and ethical obligations.

The older definition of insanity which explains it as a transformation of the personality, a falsification of the ego, has its full justification. These terms convey the idea that psychoses as a rule do not arise suddenly and without premonition, but gradually develop from small beginnings.

Usually at the commencement, only slight peculiarities, eccentricities or oddities are noticeable. These gradually gain more and more ascendency over the ideational, emotional and volitional activities. Mental disease in any particular individual may be recognized by the differences and changes in habits, by the altered likes and dislikes and emotions, as well as by other signs of a change in the nerve centers. The transformation from mental health to mental disorder covers a varying period of time. Hence the only gage of an individual's health is his own normal state. No person should be called mentally sound or unsound except as compared to himself in a state of health. I recall this fact in order to controvert the widespread opinion that health and disease are radically different. They differ radically only when the transition from one to the other takes place very rapidly, an occurrence which, as already stated, is

infrequent. In all other instances the recognition that a brain is inferior is equivalent to the recognition of the commencement of the psychosis. It is the psychopathic taint which permits the effects of otherwise harmless influences to become injurious. In order, however, to answer the question why one child in a family may be psychopathically tainted, while another may remain entirely free from such taint, we must always bear in mind that a child is not merely the offspring of its father and mother, but is the final constituent of a long series of ascendants, and is heir to their varied peculiarities and endowments. Of these characteristics, one child inherits one, another child inherits some other. We should not be astonished, therefore, when, in a family of six or eight children, only one child possesses certain bodily or mental peculiarities which are known to have been present through many generations in the family of the father or the mother.

In concluding this chapter, I would again emphasize the fact that anatomical changes can but rarely be regarded as the cause of an insanity. One of the greatest difficulties with which the study of mental disease has had to contend is that autopsies have revealed so few changes that could be perceived by the naked eye. Even by the aid of a high-powered microscope, often only the barest traces of alteration are discoverable in the cortex of the brain. Marked changes are found solely in paresis and in other states of pronounced dementia. No other mental disorders can be recognized from the autopsy alone. Of course we must assume anatomical lesions to be the cause of the functional changes of the brain and nervous system, but at present our technical means of examination are not sufficiently perfected to enable us to recognize these delicate structural alterations. The time will certainly come, however, when the connection between the millions of brain and nerve cells, as well as the dependence of their normal activity upon proper nutrition, will be better understood.

V

MENTAL DISORDER AND RESPONSIBILITY

A. The Physiologic-Psychologic Basis of Responsibility

In the estimation of the mental state of an individual, forensic psychiatry lays stress particularly upon two points:—

In civil law it is the business capacity that must be established.

In criminal law it is the responsibility that is to be established.

Both branches of the law presume that the individual has a free will, *i.e.*, that he allows himself to be guided by reasonable motives in all his actions. In consequence of pathological states the individuality of the person may be so altered that the effectiveness of normal motives becomes abrogated, either partially or entirely. Then the free will (determination) of this person has been partially or entirely annulled. It must be the aim of every expert opinion to decide whether this has occurred. The concept of responsibility depends upon the assumption that free volition governs our acts. It is a reasonable presumption that every normal adult person is capable of safeguarding his own interests. This constitutes business capacity. In addition to the capability of an individual to care for himself, however, the law also assumes that every person who has grown up and been trained under the accepted ethical views and notions of our social organization shall have acquired an ample sum of moral concepts by which to guide his conduct in life. All legal statutes recognize the necessity for the existence of the potentiality of guilt (imputability), the connection between will and act, before punishment may be decreed. Hence "guilt," in the sense of the criminal law, may be directly designated as that constitution of the will which makes a person responsible for a punishable wrong.

It is not necessarily true that every carrier of a mental anomaly will under all circumstances be misled by his morbid impulses into the commission of a wrong. His transgression takes

place only when his actions are no longer inhibited by notions which would amply suffice to control the conduct of the sensible persons of the community in which he lives. In order that a person who has committed a punishable wrong may be held responsible for his act, it is necessary to assume he possesses sufficient insight to enable him to recognize the punishability of the unlawful deed. The law assumes a lack of such insight in children, as well as in pathological disorders of mental activity, in feeblemindedness and in persons who are unconscious. But it distinguishes only two possibilities, responsibility and irresponsibility, a distinction which in many instances seems to be too abrupt and which represents a practical hardship. As we have seen, it is just as impossible to draw a distinct line between health and mental disorder as it is to mark the exact line between bodily disease and bodily health. The aberrations of mental health occur in very many transitional forms and mixtures, and in these there can often be no distinct borderline between responsibility and irresponsibility. In certain mental disorders—for instance, in melancholia, mania, paranoia, etc.—there can be no question as to the patient's irresponsibility. Once the diagnosis has been established and the fact of the commission of the offense during the existence of the disease has been proved, the question of the person's responsibility answers itself. The general proposition that an insane person is free from responsibility should be maintained.

But where we are dealing with individuals who are upon the borderline between health and disease, the question must be an entirely different one. In such cases proof of the existence of a deviation from a state of mental health is by no means synonymous with proof of irresponsibility. Borderline states of this type may roughly be divided into two classes, as follows:

First, states of disease only partially developed, but in which a pathological disorder of the mind is permanently present. This group refers to individuals in whom there exist certain inadequacies and peculiarities.

Second, cases in which pronounced mental disorder exists temporarily but not permanently, and in which an appreciation of the interparoxysmal phases becomes exceedingly difficult. To this group belong many cases of epilepsy, hysteria, chronic alcoholism and morphinism, as well as the afflictions of many pa-

tients who are in the early stages of senile dementia, and of all those who are in an interval phase of a periodic insanity, etc.

It is for the latter group of cases that the adoption of the notion of restricted responsibility would be in accord with all scientific facts, as well as being a great practical help alike to the judge and the medical expert. In all these states, however, whether there be a question of the existence of states of sleep and dreaminess, of hypnosis, of inebriety or of excessive emotion, the psychiatrist as expert must always bear in mind that it is a long road from the demonstration of the possibility to that of the probability or the certainty of a causal connection between the disorder as it exists and the deed of which the person stands accused. An entirely convincing proof of such connection can be furnished alone by showing that the deed was the result of a disordered state of mind, so disordered that free determination could not be exercised. The lack of reasonable motive, the recognition of the existence of a disordered state of mind, even at the time of the commission of the deed, would not suffice. Consequently the expert only too often will find it necessary to declare himself unable to express an opinion as to whether certain states of mental disorder do or do not annul free determination and responsibility. In this connection I would again lay stress upon the necessity for considering the entire personality, and more especially for carefully comparing the psychic comportment at the time of the imputed punishable deed with the previous character of the accused.

We cannot enter here upon a formal inquiry regarding freedom of the will and determination. Because it is universally acknowledged that everything takes place in accordance with the law of cause and effect, it by no means follows that all our doings are purely mechanical and that free determination does not exist. In this regard man differs from the rest of the organic world. Not everything he does takes place because it must. Upon the one hand transmitted instincts, training and surroundings force his character and will to take a definite course, but, upon the other, they also produce definite inhibitions which at certain times will come into play. Man can compare the motives for his acts, can estimate their relationship to each other, and can then effect a choice. Under pathological conditions and particularly under the influence of erroneous no-

tions and delusions, the weight of certain motives will be falsely estimated and the resulting action will take a wrong course. But even when the recognition of the punishability and wrong of a deed exists, the possibility must always be considered that a person's better appreciation has been annulled by pathological impulses. Hence we can understand why it is that one patient will lack recognition of the wrong of an immoral or illegal deed, while another, despite such recognition, cannot withstand his immoral impulses, and in still another there may exist a counter action of imperative impulses and obscuration of consciousness, etc. To all this, however, must be added a consideration of the dependence of psychic activity upon physiological processes. Everything therefore takes place in accordance with the law of cause and effect, but the causes differ under normal and under pathological conditions and it is only partially in our power voluntarily to alter these conditions. At any rate, there can exist no absolute freedom of the will, but only a freedom of the will that is restricted in accord with the law of cause and effect.

Every jolt of a kaleidoscope will cause its pattern to change by altering the positions of the varicolored and differently formed particles in relation to one another. The particles in themselves remain as they were; neither in form nor in color have they been changed. Similar conditions seem to apply in mental disorder. Change in a psychic function alters the entire mental impress, gives the personality another character, even when the individual parts that constitute psychic activity are all present. Therefore it is not at all necessary that one or the other of the psychic functions should be eliminated before insanity can be produced. A machine may fail to operate because a small cog or wheel is lacking; on the other hand, the machine may come to a stop because one part or another of its mechanism has become displaced, thereby rendering impossible the proper interlocking of wheels, shafts, etc. Similarly a disorder of brain activity depends only in part upon the subversion of the individual functions necessary for the orderly course of psychic processes. For instance, if one or another of the sensory organs be wanting, no complete sensory perception can be realized and a more or less pronounced defect in psychic activity must ensue. Other manifestations of downfall (loss of memory,

etc.) may be produced by cerebral hemorrhage or injuries to important centers of the brain. It would be erroneous, however, to conclude from any such occurrence that every disorder of mental activity must be associated with the loss of some psychic function. In very many instances, while the actual relationship of the individual parts has become disordered, there exists no injury to any one part and no actual defect. A translocation has occurred which has rendered impossible the proper interassociation of the various individual brain ganglia and other brain parts.

An appreciation of this condition is necessary if we would form any valid opinion regarding a person's mental state. The layman easily conceives insanity to be a condition in which a person has lost the use of his reason. We should not forget, however, that the conceptual sphere of a patient does not change abruptly. The educated and cultured individual does not become transformed suddenly into an ignorant and senseless one. The business man does not suddenly lose his entire acumen, nor the mechanic his dexterity. For the layman, the recognition of insanity in an individual case is attended with great difficulties, and this is so particularly because the insane frequently retain sufficient power of thought and will to completely conceal their altered condition in all ordinary social intercourse. Often the insane person really believes he is not sick; but even when he knows he is not well he endeavors to control himself so that no inopportune remark will escape him. Unfortunately even to-day all people look upon insanity as a disgrace and not as an affliction. Moreover, it is generally recognized that a person who is insane must be placed under control. No wonder then an insane person, so far as it lies in his interest, will concentrate his endeavors toward deceiving those with whom he comes in contact. This is not difficult when his mental powers are altered in one direction only. He will apparently think clearly and logically in all other fields and will by no means give the impression of being insane, of being deprived of his reason. Likewise there are insane persons who not only have the will power to hide all their false ideas but also are able with much astuteness and cunning to fabricate explanations for their abnormal statements and actions. Then again we must consider that periodic insanity is often characterized by intervals of ap-

parent mental health, during which the intelligence and will power appear to be unaffected. Careful observation, however, will always reveal the existence of certain almost intangible evidences of mental disorder, such as disconnected thoughts, emotional excitability, shunning of associates and acquaintances, distorted views of existing conditions and other similar things.

In so far as the classification of the individual forms of mental disorders is concerned, no uniformity has been attained. This to a great extent is due to our ignorance of the more delicate structural changes that occur in mental disorders. All we know is that the diseased state of the brain constituting the basis of mental disease is essentially a disorder of the gray brain cortex and that even an extremely slight physical or chemical change of the brain substance suffices to produce a disturbance of psychic function. For this reason it is not possible to base any classification of mental disorders upon considerations that govern the classification of most bodily diseases. While the latter may be differentiated according to the part of an organ involved by the process of disease, as for instance a parenchymatous or interstitial nephritis, we cannot differentiate mental diseases according to this plan, but must base our classification to a great extent upon the symptoms which the disease produces.

Hence, according to the manner of their manifestations, whether as augmented or diminished activities of intellect, will or emotion, mental disease may be classified as mania, melancholia, paranoia or dementia. But these various forms of mental disease by no means represent so many distinctly different diseases, for in many instances a combination of several states is present, or the one follows the other as a sequential stage of one and the same mental sickness.

Mental disorders may also be classified as primary or secondary. In the former class as a rule intelligence (perception, thought association and judgment) is less disordered than the emotion and the will. On the other hand, the symptoms of secondary mental disorders are predominantly intellectual ones. The power of thought and judgment is diminished. Everything appears to the patient as if, so to say, he were looking into a parabolic mirror. He of course sees only distorted images, and, while under similar conditions a healthy person knows that the

images are distorted, the insane person considers them to be true and accurate and his deductions, which may be quite logical, will necessarily be based upon this belief. His entire behavior is based upon an erroneous premise. Having lost his standard of judgment for actual occurrences, he exaggerates inordinately both pain and pleasure. Naturally the degree of culture possessed by an individual must have a bearing upon the extent of the intellectual defect; the apperceptional power, however, also has become abnormal, and the consciousness clouded and increasingly dominated by the delusions which ultimately alter and transform the individual's entire personality. Then the psychosis is fully developed and the exercise of the intellect with free determination of the will is no longer possible.

While the primary mental diseases, when recognized early and properly treated, often present prospects of recovery, the secondary psychoses, those which result from the primary ones, are usually permanent states. In a general way it may be said, recovery will be the more uncertain the longer the psychosis has existed. Much therefore depends upon early recognition of the disordered condition.

The earliest manifestations represent a marked emotional change. A gentle and docile person becomes surly and irritable, the sedate and sober one boisterously joyous, the parsimonious one extravagant, etc. The person of a cheerful temperament becomes quiet, depressed and quarrelsome; he wants to be left alone, becomes unsociable, and for long periods of time sits lost in thought. He gives little or no attention to his business or his family and what little he does is usually purposeless and disordered. He is distraught, neglectful and incapable of concentration. He tires easily and sleeps restlessly. He is unceasingly pursued by a single thought which, the more his intellectual powers diminish, gains more and more dominance over his enfeebled will power. In another patient thought images are plentifully present and change rapidly, but the transition from one to another is abrupt and not by any means through orderly thought association. Very many patients grow markedly excited over insignificant causes, while the most important occurrences leave them unconcerned and unaffected.

The more the diseased process advances, the more noticeable do these symptoms become. The patient's behavior becomes

tactless and changeable. His actions are causeless and unrelated or are governed by purposes and motives that are contradictory, opposed to his own interests and incomprehensible to a normal person. Frequently he craves the impossible, aspires to immense riches or wants to be a great inventor or a general reformer. He feels himself chosen to endow the world with a new social order or to accomplish some other great feat. The patient may be joyous and excited without adequate cause. Then again he may be overcome by an apparently causeless depression, often so intense that it leads to suicide. Sometimes he causes injury to himself or others without having any idea that he may be held legally responsible for his acts.

On the other hand, he may have full appreciation of his responsibility but, dominated by a delusion or an irresistible pressure, he will commit a crime based upon a preconceived plan. He suffers from headache, tinnitus and other sensory irritations, often from complete loss of appetite, and sometimes inordinate voracity. In one instance the sexual desire may be almost or entirely lost, while in another it is immoderately augmented. More and more easily the patient loses his self-control, his actions form an ever-growing contrast to his previous mode of life, and his sympathies and antipathies to his original character.

In the chapter on special diagnosis this development of the various forms of insanity from small beginnings to accentuated psychoses will be considered in all its details. I expect especially to show how, in the different stages and forms of mental disorder, freedom of the will and responsibility may be variously restricted, even when a pronounced intellectual defect is in no way demonstrable.

The early recognition of mental disorder is not only more important, but it is also more difficult than is the recognition of bodily disease, for, as we have stated, the alterations in thought, feeling, volition and conduct must have been present for a long time before the defective nervous system could break down under any test of strain or stress. The struggle for existence brings to light many psychoses that otherwise might have remained unrevealed. We should not wait, however, until it is too late, until a person proves himself no longer capable of fulfilling the duties that devolve upon him. The expert proves his mastership by his ability to make a correct diagnosis at the

very beginning, before generally noticeable symptoms have appeared.

B. Mental Disorder as a Physical Disease

The disorders of mental activity are in the main disorders of bodily activity. The latter are related not only to the central nervous system but also to general cell metabolism, internal secretions, etc., so that finally, should the brain become secondarily involved, disease of any organ or any part of the body may become the starting point for a psychosis. This will become all the more evident the more intensively we occupy ourselves with the study of mental disorders.

Very recently the early recognition of mental disease has been facilitated by a method which in all probability has a great future. This method is based upon the defensive ferments discovered by Abderhalden. This investigator found the blood of pregnant women to contain ferments that had not been present previous to the condition of pregnancy, and that are never found in the blood plasma of women who are not pregnant. He then extended his investigations to the infectious-toxic processes, and discovered that the body cells always respond to the entrance of materials foreign to these cells by the formation of specific defensive ferments. As soon as the function of an organ is disturbed by the entrance of foreign cells, ferments arise which tend to rob the substance formed by the foreign cells of their specific character and so to transform them that they can no longer interfere with normal cell metabolism. What gives the defensive ferments special diagnostic significance, according to Abderhalden, is the fact that they are directed specifically against foreign invaders and therefore in each instance differ in disposition. From their effectiveness we are able with great certainty to determine the nature and kind of the foreign invaders —in other words, of the disease-producing substance.

For instance, as soon as we find in the blood serum those defensive ferments which are specifically directed toward the chorionic epithelia, the proof of the existence of pregnancy is furnished, for only under such circumstances can the chorionic epithelia enter the circulation. These chorion cells, although not foreign to the body itself, are foreign to the blood, and the or-

ganism therefore reacts to their entrance into the blood by the formation of specific defensive ferments, and this it does at a time when perhaps no positive signs of pregnancy are yet demonstrable. For we must admit the possibility of the entrance of chorionic epithelia into the circulation during the earliest months of embryonal development—hence at a time when the objective recognition of pregnancy is difficult, if not actually impossible. Just as it responds to the presence of chorion cells, so the organism reacts to the invasion of other foreign blood substances, namely, by the formation of specific defensive ferments. Thus, by the aid of these defensive ferments, we are able to elaborate a method of diagnosis of an organ's function, because every disturbance of its function causes the affected organ to produce its specific defensive ferment and causes it to do so before the pathogenic state becomes recognizable through manifest symptoms.

These explanatory remarks have seemed to me to be requisite, since without them the bearing which Abderhalden's theory has upon the diagnosis of mental disorders would not be comprehensible. After it had been ascertained that the organism reacts to every pathogenic agency by the formation of specific defensive ferments, it was but natural that their presence should also be sought in those diseases of the mind and nervous system that possibly are due to toxic infectious processes. The elaboration of a serology of nervous and mental diseases was therefore attempted and this led to the discovery that the blood plasma in purely functional neuroses and psychoses contained no defensive materials whatsoever. This finding was to have been expected, for we know of no foreign substance which causes purely functional disorders and which could incite an organism to the production of defensive ferments. On the other hand, the blood plasma of patients belonging to the dementia præcox group, that of certain epileptics, that of myxœdematous patients and of paretics, etc., as well as that of those suffering from other syphilitic brain changes, was shown to contain specific defensive ferments. Their presence in the blood serum has also been proved in cretinism, infantilism, acromegaly, katatonia, hypophyseal tumors and all other mental and nervous disorders for which body foreign, blood foreign or cell foreign materials are of etiological significance.

A study of these defensive ferments is of great importance for the psychiatric expert. Above all it becomes possible by their aid to make a diagnosis at a time when clinical observation will fail to reveal any positive symptom by means of which a definite disease can be recognized, and moreover their presence should often enable the differential diagnosis between obscure cases to be made. The determination of the presence of a certain defensive ferment, either optically or by means of the dialysation method, always points to a specific pathogenic invasion, the defensive ferment against hypersecretion of the thyroid gland being different from that against the absence of thyroid secretion, that against hyperpituitarism being different from that against dispituitarism and that of dementia paralytica being different from that against dementia of any other kind. These various findings have been corroborated by numerous observers. While I by no means believe that the Abderhalden method of blood examination of itself is as yet adequate for diagnostic purposes, I am convinced that it is a valuable amplification of our methods of psychiatric examination. I cannot endorse the enthusiasm of certain authors who look upon Abderhalden's method of diagnosis as an infallible means of recognizing every psychosis and every other pathological state. Clinical observation, together with all other methods of examination, will be as much needed in the future as they have been in the past. The blood test for defensive ferments when used in conjunction with our other and older tests undoubtedly will prove to be a very important diagnostic adjuvant. Abderhalden's method, however, is still at the commencement of its development.

Entirely aside from Abderhalden's deductions, and before proceeding to a consideration of special diagnosis, we should obtain a clear understanding of the mode of action of the defensive ferments. For this purpose let us examine more carefully certain doctrines which play an important rôle in modern physiology and pathology. It has long been known that certain psychoses are dependent upon toxæmia and that the toxic material which thus causes harm to the function of the brain may be carried in from the outside or may be formed in the body itself. The sources of poisoning from within the organism are above all the poisonous products of metabolism, such as carbonic acid, urea, etc., which under normal conditions are eliminated. The excretion

of these toxic metabolic products may be hindered by disease of the respiratory and circulatory organs or by disorder of the intestinal tract and kidneys, so that they accumulate in the body and are carried to the brain by means of the circulation. A second cause of endogenetic poisoning must be sought in the bacterial metabolic activity which, in the course of infectious diseases, causes not only transitory febrile delirium, but often also carries more lasting harm to the functions of the brain. It is even possible that the toxic metabolic processes of those bacteria which inhabit the human mouth, or of those that thrive in the intestines without producing any symptom of disease, will become resorbed by the mucous membrane and produce a state of endogenous intoxication with deleterious consequences for the central nervous system. This, as we have said, is all well known. More recent investigators, however, have brought to light an additional source of auto-intoxication. There exist a number of ductless glandular organs that secrete important substances which are at once drained into the circulation by means of the veins or lymphatics. The most important of the glands with internal secretion are the spleen, the thyroid and parathyroid, the thymus and hypophysis cerebri, the adrenals, the epididymides and the parovarii. The products of these glands are of the utmost importance for the maintenance and activities of the entire organism, inasmuch as the lack of any one of these products at once produces symptoms of failure. The product of each gland possesses specific qualities which cannot be replaced by any other internal secretion, and all of these secretions combined give the blood that composition which it needs as the nutritive fluid of the entire body. A lack of any one of these secretions will, therefore, bring about a qualitative alteration of the blood resulting in a curtailment of its nutritive properties. Some function of the blood pertaining to metabolism is lost. Furthermore it must be considered that these internal glandular secretions hold one another in check through antagonistic relations which exist among them. Therefore, when any specific internal secretion becomes lost, its antagonist gains supremacy. Thus it has been shown that uterine secretion and ovarial secretion maintain an equilibrium between each other. Moreover, the nervous disturbances of the climacteric are dependent upon the failure of ovarial secretion. Through the natural extinction of ovarial

function (or through artificial climacteric produced by ovariotomy) the antagonist of the uterine secretion is removed. That the resulting disturbances are actually dependent upon a disordered balance of internal secretion, is incontrovertibly proven by the prompt action produced by the administration of animal ovarial extract which acts as a substitute for the lost ovarial secretion and reestablishes the normal balance.

The mutational relation that the organs of internal secretion bear to one another and to the activities of the entire organism were first recognized through the loss of thyroid function and through the cure of myxœdema effected by the administration of animal thyroid gland extract. This balance of internal secretion becomes disordered, however, not only in consequence of a stoppage or a diminution of a certain secretion, but also through its hypersecretion. Thus we know that the nervous disorders of exophthalmic goiter must be attributed to an overactivity of the thyroid gland. In this case the antagonistic glandular organ is unable to neutralize the excessive thyroid secretion. Autointoxication of the body, therefore, takes place through a disturbance of the balance existing between the internal secretions, thus causing a failure in the supply of one neutralizing product, or causing the excessive production of another, so that the poisons which are formed in the organism by metabolic or infectious toxic processes can no longer be transformed into harmless combinations.

Internal secretion, therefore, forms part of the organism's natural means of protection and defense, part of those dispositions through which the body regulates its activity and seeks to reestablish their healthy balance when they become disordered. Under altered vital conditions specific secretions are at once mobilized and it is then their task to defend the function which is in danger against inimical attack. In the disorders of the climacteric, altered conditions of life are brought about by the loss of ovarial secretion, just as in cretinism or myxœdema they are dependent upon the loss of thyroid secretion, or in exophthalmic goiter they are dependent upon the hypersecretion of the thyroid gland. Soon there are produced in the body those protective substances which Abderhalden has designated as defensive ferments. In the manifestations of the climacteric due to failure of function, the defensive ferments are directed

specifically against the uterine secretion, in the manifestations of cretinism and myxœdema, they are directed specifically against the metabolic poisons which in a normal state are neutralized by the thyroid secretion, in exophthalmic goiter they counteract the thyroid function, etc. Abderhalden supposes that the defensive ferments arise from the white blood cells. He admits that their nature is not yet understood and that they can be recognized only by their effects. Of course the defensive ferments cannot always reestablish an equilibrium of the secretions when it has been lost nor restore the functional changes which its disturbance has produced. Were this possible no sickness, except as a result of injury, could exist.

For the purpose of our present inquiry we are interested not in the prophylactic and the therapeutic but in the diagnostic value of the defensive ferments. These ferments can be demonstrated in the blood at a very early moment after the onset of a disorder, at a time even when such disorder has given no appreciable external evidence of altered function. They continue to be present so long as the disorder persists. When the regulatory provisions of the organism are able to cope with the disorder or when the process of disease has run its course or has been artificially arrested, the defensive ferments again disappear from the blood. Thus far it has been demonstrated that every chemical or morphological alteration of cell structure is followed by the formation of defensive ferments, which means that the organism responds by defensive measures to every disturbance of equilibrium of its vital activities. Previously this fact has been thought to apply only to infectious diseases, in which the organism was known to respond to disturbances of its vital activities by the formation of antibodies (antitoxins). Abderhalden passes by the question whether the antibodies set free by the pernicious activity of bacteria and their metabolic products are identical with the defensive ferments. Personally I believe it will be shown that they are. The results obtained by the newer investigations make it seem probable that every disease produces its corresponding defensive ferments. For this reason all pathology, all metabolic infectious diseases, all intoxications, as well as many nervous and mental diseases, have been placed in a new light as a result of Abderhalden's discovery. Moreover, there can no longer be any doubt that the psychoses are not dis-

eases of a particular kind, but are actual physical disorders which are associated with material changes. Were this not so, were we obliged to assume that the disorders of mental activity are not, as are the disorders of bodily activity, anchored to material substrata, then the finding in the blood of the insane of specific defensive ferments, indicating changes in the brain cortex and in other organs, would be incomprehensible.

These defensive ferments are present even at a time when appreciable symptoms of mental disorder are entirely missing, or when the changes in the brain cortex, in the thyroid gland or in other organs that are in any way connected with psychic activity, are yet undiscoverable by means of any known psychiatric diagnostic method. While we have no definite knowledge of the nature of these defensive ferments, as I have already said, we can differentiate them from one another most accurately by means of their effects. There are just as many kinds of defensive ferments as there are pathological processes.

The blood serum of a cancerous patient through its specific defensive ferments acts differently from that of a tuberculous patient, the blood serum of a paretic different from that of an epileptic, etc. The basis for this difference is explained by Abderhalden in the following manner. The defensive ferments, like bacteria, are very fastidious in regard to their nourishment and reject all nutriment that is foreign to their kind. The difficulty surrounding an artificial cultivation of micro-organisms is due to this fact. As is well known to every bacteriologist, the lack of any substance necessary to the development of the bacteria in the artificial culture medium, or any other fault in the composition of the nourishment which renders it inacceptable to them, will cause them to decline and perish. The defensive ferments, which are also to be looked upon as living cells, act in a precisely similar manner. Where the nutritive material is not adapted to their specific requirements, they do not attack it. The defensive ferments always utilize for their nutrition only those organs of the body whose functions are disordered, for it is precisely this disorder of function which sets the defensive ferments free. In the female organism, for example, there can never arise defensive ferments against a dysfunction of the testicles or in the male body defensive ferments against a dysfunction of the ovaries. If in dementia præcox occurring in

female patients the blood serum is brought into contact with testicular substance, the latter remains unaltered, just as ovarian substance remains unchanged when it is mixed with blood serum of male individuals. On the other hand, in dementia præcox of female patients, ovarial substance, and in dementia præcox of male patients, testicular substance, are reduced in each case, and the substance, separated into its elementary components, is used as nourishment. The reason for this is entirely clear. In the one instance it is the disorder of ovarial function, in the other the disorder of testicular function, which has at the same time damaged the brain and provoked the formation of the defensive ferments. The proof that the brain has been damaged by a dysfunction of the germinal glands is furnished by the fact that in every case brain cortex becomes reduced by the blood serum of patients afflicted with dementia præcox. This one example should give us some notion how the specific effect and the mode of action of each single defensive ferment can be explained. The blood serum of cancer patients reduces carcinomatous tissue, that of goiterous patients thyroid substance, that of pregnant women placental cells or chorionic epithelia, etc. As the dysfunction of an organ, for instance, the thyroid gland, may manifest itself, however, by the production of various forms of disease (Morbus Basedowii, myxœdema, etc.) the positive reaction to thyroid gland alone would not yet warrant reliable conclusions concerning the specific character of the defensive ferment and the pathological process that is in question. We should bear in mind, however, that in no pathological process can there be a question of only one cause, of only one disorder of function, of only one organ which has become chemically and morphologically altered, but that in every such process various factors cooperate and various organs are involved.

All organs, as I have already emphasized, bear a reciprocal relationship to each other through the internal secretions, and are also closely connected among themselves through the nervous system and circulation. If, for instance, the thyroid gland has become functionally impotent or has been operatively removed, other organs (brain, etc.) which are dependent for certain functions upon the *glandula thyreoidea* will be associatively incapacitated; failure of these organs will in turn be followed by a failure in other organs which up to that time they had provided

with secretion, etc. Thus functional disturbances of a single organ may directly or indirectly, chemically or morphologically, cause disturbances of an entire series of other organs and produce disordered equilibrium of all vital activities. For the same reason the other organs which have become involved by the pathological process must react specifically to the test with defensive ferments. If a patient's blood serum is brought into contact successively with the substances of various organs experimentally offered as food to the defensive ferments, it will in one instance remain unchanged, thus showing that it possesses no chemical affinity for the defensive ferments and that the corresponding organ, therefore, has no connection with the pathological process, while in another case the reaction will be a positive one—that is, the substance will be attacked by the defensive ferments contained in the blood serum, will be disintegrated into its elementary components and built up into other connections. This permits the conclusion that these substances constitute the proper nutriment for the defensive ferments and, therefore, the function of the organ from which the substance has been taken is identified as the disordered one. In any concrete case, then, these organs which have given a positive reaction to defensive ferments are the ones which are affected by the pathological process, while the others which have reacted negatively to the test are not implicated. When to this we add a proper consideration of the clinical symptoms, all doubt as to the nature of the process should disappear.

This serum test for bodily disease is entirely applicable to the psychoses. It is stated that of the 65,000 patients admitted annually into the hospitals for the insane in the United States, only ten per cent belong to that group clinically designated as a general paresis, while twenty per cent of the admissions belong to the dementia præcox group. It is for this large group particularly that we now possess a serologic test. The recent investigations of Wegener, three thousand experiments upon six hundred patients, have shown that by this test we are able definitely to differentiate the dementia præcox cases from those of manic depressive insanity and hysteria. Psychopathic disposition in the future as in the past will have to be determined, of course, from the family history and from other indications, for in itself a disposition to disease is no pathological state and, therefore,

cannot give rise to the production of defensive ferments. "Functional" or "psychogenic" psychoses and neuroses may, since the discovery of the defensive ferments, be expected to decrease steadily in number and significance. This, in other words, signifies that we will by means of the Abderhalden serum test disclose more and more chemical and morphological changes of cell structure in the brain and other organs, so that the purely functional disorders will grow steadily less important.

The employment of Abderhalden's sero-diagnosis in the recognition of psychoses again proves that the disorders of mental activity are essentially disorders of physical activity, of cell metabolism in the brain, of internal secretion, etc. Wherever the presence of defensive ferments can be demonstrated, some functional or organic disorder must exist. Where no such defensive ferments can be discovered the disorder must be either purely psychogenic or it may be a simulated one.

The differentiation hitherto upheld of *status somaticus* and *status psychicus* can actually no longer be maintained. The psychic processes of life take their course under normal as well as under pathological conditions according to the same laws as those which govern physical processes, and in this consideration of the defensive ferments I have found a stimulus for again laying stress upon this psycho-physical parallelism.

VI

THE EXAMINATION OF THE INSANE

THE examination of an insane patient may be divided into three separate procedures, that of obtaining the previous history (anamnesis), that of determining the existence of bodily deviations and that of testing the psychic functions. The method of examination will necessarily vary in accordance with its purpose, and the examination conducted for purely scientific reasons will not be the same as the one instituted essentially for the purpose of determining an individual's sanity or insanity. A forensic report upon the mental state of an individual can never have as its aim the exposure of new psychiatric facts, and for this reason all experimental study of the individual under examination should be inadmissible. The task of the forensic expert in a questionable case is always confined to the practical purpose of disclosing, by means of generally recognized methods, the existence either of complete mental health and responsibility, or of pronounced mental disease with total abolition of responsibility.

"Questionable" cases are usually those borderland conditions in which the mental disorder remains unrecognized by the general observer, or in which at most there is a question of restricted freedom of determination. In this connection, however, the most extraordinary errors may take place. Thus in two instances in which I was interested, the patients, both accused of murder, had pursued their vocations uninterruptedly up to the time of the commission of their deed—yes, even until some time later when arrest followed—and in no way had either one aroused suspicion among his business associates, friends or acquaintances that anything might be wrong with him. Each of these men had carefully planned his crime in all its details. Each had taken measures to conceal his identity as the perpetrator. The dominant fact in both cases was apparent mental health and not mental disease, yet both men were paranoiacs, each believed himself ordained to commit the murder, each had

a bad family history, and each in his writings gave evidence of long continued existence of the mental disease prior to the commission of the deed.

Not many decades ago it would have been most difficult in instances of this kind to convince a judge that we were dealing at least with borderland cases, to say nothing of their being unquestionable psychoses of the most dangerous kind. Even at the present time the psychiatric expert will find himself confronted by objections similar to those which for decades and centuries stood in the way of a general acceptance of what later became manifest truths; and not only judges and laymen, but even physicians seem to believe that no mental disease exists which does not manifest itself by accentuated symptoms. This is precisely the point that distinguishes the psychiatric expert from others who believe themselves qualified to judge abnormal mental states. The person who is not an expert bases his opinion on what he sees with his own eyes, but the expert recognizes the signs that are hidden from view. His eye does not remain fixed upon the surface, seeing only outer manifestations, but he looks deeper for the secret causes of apparently inexplicable actions. The thoroughly diseased state of the individuals of whom we have just spoken, for instance, was revealed only through their writings, in which they gave expression to their innermost thoughts. From this and similar experiences the following deductions may be drawn:

First, that a mental state which the layman, on account of the apparent absence of intellectual disorder, will consider a perfectly normal one, or at most a borderland condition, may be revealed by the most careful observation of a psychiatrist as a case of pronounced disease.

Second, that it is possible to conceal the products of abnormal mental activity from one's surroundings and, hence, that it is also possible to make one's surroundings believe in the actuality of a psychosis that does not really exist. Under the searching examination of the psychiatrist, however, neither simulation nor dissimulation can be maintained. A man who has been guilty of a punishable act and is seeking, through simulation of mental disease, to evade the consequence of his deed, may very well simulate single symptoms, but he cannot feign the entire picture of disease. All symptoms must be made to harmonize, but it is

very difficult to do this for any length of time, no matter how adept the simulator may be. Some one time he will forget himself, will omit one symptom or another. In order that the picture of disease be uniform and natural, the disease itself must exist. But it is equally difficult to succeed in the dissimulation of existing disease, such as a chronic alcoholic or squanderer might attempt in order to evade a guardianship. Simulants and dissimulants may deceive the layman, but not the experienced psychiatrist. To expose the attempted deception, it is not really necessary to rely upon the awkwardness and forgetfulness of the actor, for other measures are at our disposal. Recurring again to the cases mentioned above, it was simply because the individuals in question did not happen to come into close contact with any psychiatrist that they were able, notwithstanding the existence of severe mental disorder, to carry on their work for many years without creating any suspicion of insanity.

In the same connection, let it also be stated that the mere assertion of an accused that he has feigned insanity is by no means sufficient of itself to justify a court in declaring him sane and criminally responsible. It is not uncommon for an insane person, on finding that his acquittal on account of mental disorder will entail a longer period of confinement than would a conviction for the crime of which he stands accused, to declare he has feigned the symptoms of insanity.

The third lesson that may be deduced from the two foregoing cases has reference to the anamnesis. It is very exceptional for a well defined psychosis suddenly to appear in a previously mentally healthy person. Usually the mental disorder develops slowly and insidiously upon the basis of a congenitally impaired nervous system. Neither the one nor the other of the two men referred to perpetrated his crime in a sudden accession of mental disorder. On the contrary, each of them had for a long period of time been ready for the perpetration of any deed of violence, only a slight initiative being required to produce the actual outbreak. It is, therefore, of the greatest importance that the private history of the accused in all its details should be known in every case of mental disorder, but more particularly in every forensic case, in which it may be a question not only of a person's honor and liberty, but even of his life.

Let me here emphasize the fact that until a person accused or

convicted of any crime has been subjected to a careful observation by a psychiatrist, we can never be certain whether he is mentally healthy or insane. In this connection I need but recall various recent occurrences in which, as a result of their own confessions, individuals had been sentenced to severe penalties and had partially or entirely served their sentence before it could be demonstrated that the crime either had not occurred at all or had been perpetrated by others. Thus, according to a report of Heilbronner, a tribunal in Graz a few years ago sentenced to death a peasant who had voluntarily surrendered himself to the authorities with the declaration that he had rid himself of his idiotic daughter by throwing her into a rapidly flowing stream. His conscience giving him no rest, he said, he desired to make expiation for his crime. A prolonged and careful search for the girl proved fruitless. Although the death sentence was pronounced, it was later commuted to imprisonment for life. One day the missing girl reappeared at her home, having wandered about as a beggar, unrecognized, in the surrounding valleys. Meanwhile the father had developed a hallucinatory psychosis on account of which he was transferred from the prison to an asylum. Upon the girl's return it became manifest that this hallucinatory insanity could not be looked upon as a prison psychosis, but that it had already existed at the time the man had surrendered himself to the authorities. Had this self-accused pseudo-murderer given the slightest indication of an impairment of mental health, had his self-accusations been accompanied by any confusion of manner, the examining magistrate probably would have insisted upon an examination of the man's mental condition. Partly from the man's previous life, partly from the mental and physical examination, a psychiatrist would undoubtedly have been able to determine that the prisoner's statements to the court represented false self-accusations of a kind not infrequent in hallucinatory patients, and that, therefore, the girl's disappearance would have to be explained in some other manner. Similar self-accusations are frequent in melancholia. Our police records are full also of "confessions" which, upon investigation, prove to have emanated from persons suffering from hysteria, from constitutional inferiority or from a paranoid mental disorder.

In forensic practice it is quite immaterial whether the accused

makes the impression of being mentally healthy or mentally sick; whether he makes a confession or not, the possibility always exists that he may have acted under the stress of a pathological motive. As a matter of principle it should always be borne in mind that no person who is accused of a crime can a priori be considered unquestionably mentally healthy and responsible. Particularly in all such cases should the psychiatric expert who is called upon to test the mental condition most carefully ascertain all the facts concerning the family history and the previous life of the accused, for very often it is precisely there that the key to an understanding of that person's individuality will be found.

A. Anamnesis. (Previous History)

Confronted with the problem of examining an insane patient, it would be most unwise to enter upon the task directly with the aid of stethoscope, percussion hammer and other instruments of precision as one would do in the examination of patients suffering from physical disease. It is much better, before seeing the patient at all, to obtain from the relatives a previous history as complete as possible. The most important anamnestic question is the one of hereditary taint. In endeavoring to obtain information upon this point, we must not confine ourselves to general questions concerning the occurrence of nervous and mental disease in the family. On the contrary, it is necessary to obtain as precise statements as we can regarding each individual ancestor and relative. Here in America, on account of the large immigration, this is often attended by insurmountable difficulties. As a rule, the second generation of the offspring of immigrants has already lost knowledge of its family history. But as official registers are kept in most of the home countries of these people, much important information may be obtained by appeal to the proper authorities. Where the anamnesis discloses the existence of a direct or indirect hereditary taint, no effort should be spared to obtain further information by means of private or official inquiry.

In this manner the entire ancestral and blood relationship of the patient, paternal as well as maternal, may be investigated. In cases in which the family history shows the occurrence

of mental or nervous disease to be of particular frequency, the preparation of an ancestral table or family tree, or of an accurate genealogical chart covering the entire family from a psychiatric point of view, should be undertaken. Although it may not always be possible to determine the form of psychosis with which individual progenitors have been afflicted, the mere fact that they have been mentally abnormal is worthy of special note. As it appears to me, so long as we remain unable to construct an accurate ancestral chart for each individual, the entire system of criminology, the search for the cause of criminality in psychic degeneration, will be erected upon shifting sand.

What previously had been neglected in this regard can probably never be remedied, but in every country there could henceforth be established a central office in which the pertinent facts should be gathered and classified, and to which all cases of mental disease, their causes (syphilis, alcoholism, heredity), and in event of death the result of the autopsies should be reported by insane asylums, hospitals and physicians in private practice. Naturally the matter collected by such an office should be considered secret and inviolable and not subject to public inspection. Where an individual has come into conflict with the law, however, it would be possible to determine at once whether he is hereditarily tainted, whether he had previously shown any signs of abnormal mentality, whether he had received an injury, had been syphilitically infected, or was addicted to alcohol, etc. Should such data later become part of the court proceedings, be published in the daily press and thereby cause the antecedents of an insane person to become the subject of wanton gossip, this objectionable feature should be accepted as the inevitable price we would have to pay for the advantages that would nevertheless accrue to criminalistic studies. With such as arrangement forensic psychiatry would at all times have at its disposal the data necessary for establishing a reliable anamnestic basis in every case, one that would be independent of the so often unreliable statements made by the relatives of the patients and by the patients themselves. The true interests of a sick person who for one reason or another has been brought to the bar of Justice require not concealment but the disclosure of all the antecedent details of his own life and of that of his family that might furnish proof of his psychopathic taint and thus safeguard him

against unmerited punishment. The greatest benefit from the existence of such archives, destined solely for official use, would, therefore, accrue to the patient himself.

On the other hand, the science of criminology would benefit by being taught the manner in which the laws of heredity operate. As has already been explained, the theory of the Mendelian law of heredity has been tested experimentally upon plants and animals, but has thus far proven of little practical value for the human race, because there have existed no family trees the comparison of which would enable us to draw definite trustworthy deductions. A plant or an animal can be segregated, its characteristics accurately determined, and the condition under which it exists can then be altered in any desired manner. It can be permitted to couple with other species of its kind whose characteristics also have been carefully studied, and by observing the resultant generation we can determine which properties of the parent have been and which ones have not been transmitted. This procedure may be repeated under varying conditions through any number of generations and thus we can note which traits remain constant, which ones disappear entirely and which ones skip certain generations in order to appear anew in others. By this means it can be definitely determined that a generation with certain traits is the product of definite factors. In man, however, such experiments, which should be conducted into the fifth and sixth generation, are of course impossible. Animals and plants may be coerced to live and propagate under artificial experimental conditions. Not so human beings. In our study of man we are limited to the observation and registration of his specific traits and to a notation of the conditions under which these traits become changed in the offspring.

In relation to psychoses a distinction must be made between direct, atavistic, collateral and cumulative heredity. Direct inheritance exists when father or mother has been afflicted with insanity; atavistic heredity when the grandparents have been so affected; collateral heredity when relatives from side branches (uncles, aunts, cousins, etc.) have been affected, and cumulative heredity when father as well as mother has been affected. There exists also a form of heredity known as progressive (Morel) that consists in an augmentation of the severity of the psychosis as it occurs in certain of the hereditarily tainted individuals, until

finally feeblemindedness and idiocy cause an extermination of the family.

The question of the import of the various forms of hereditary taint has given rise to much discussion, and it is now accepted that indirect heredity in the absence of direct transmission is of only minor importance in the production of insanity. The factors that are to be considered important for the transmission of an hereditary taint are above all mental disorder, alcoholism, suicide, nervous diseases and syphilis in the ascendants. Tuberculosis and diabetes are not without influence. A consideration of these hereditary factors shows that about 75 per cent of all insane are thus predisposed, while upon the other hand we have also learned that 50 per cent of all hereditarily tainted individuals remain mentally healthy. For this reason family charts alone offer no proof of the inheritance of insanity; and unless taken in conjunction with the individual's environment and developmental history they prove nothing, no matter how somber they may appear. Nevertheless it must be evident that the establishment of special state archives for the purpose of registering the mental and physical status of every individual with special reference to his criminal tendencies would in a few years be of the greatest benefit to psychiatry as well as to criminology. With such archives at our disposal, the previous history of any given case could be constructed simply by a proper arrangement of the relative facts.

For every study of a family history the following points merit special attention: Consanguinity and marked differences in the ages of the parents; character, temperament and proclivities of father and mother; mental or nervous diseases of the parents; constitutional diseases of the parents (tuberculosis, syphilis, gout, diabetes, etc.); alcoholism in the parents; suicide or attempted suicide on the part of the father or mother; criminal acts of father or mother; convulsions in the father or mother.

The investigation of these points should be extended so as to include the grandparents and great-grandparents, as well as collateral relatives. Furthermore, we should endeavor to ascertain whether cases of congenital malformation, blindness, deafness or deaf-mutism have occurred in the family, whether brothers and sisters of the patient are normal and whether any have died in infancy and, if so, of what disease. After having

thus obtained a clear picture of the entire family tree and constructed a genealogical register, and after having ascertained particularly whether such or similar psychoses have occurred in the antecedents, and whether for that reason a hereditary taint, even if only in the form of general inferiority of the brain and nervous system, may be assumed to exist, we proceed to the investigations of the previous history of the patient up to the time that the disease itself became manifest. This investigation must embrace the entire mental and physical development prior to the occurrence of the psychosis.

It will be well for the psychiatric expert to maintain a certain sequence in the questions asked regarding the previous history of a case under investigation. He should first determine whether the patient has had any convulsions in childhood, and if so, when and for how long a time, or whether he had been affected with rhachitis or other diseases. In this connection we may also learn at what age the patient began to walk and to speak. Next the patient's psychic comportment at school should be investigated. We will ascertain whether he learned easily or with difficulty, whether he showed any one-sided talents or developed particularly early and what were his relations to his associates in school. It will be very important to ascertain whether the patient changed his pursuits frequently, and if so, for what reason, and whether he was efficient in his various positions. Finally, we should ascertain whether the patient had ever received any injury to his head, whether he had been addicted to the use of alcohol or committed sexual excesses, whether he had suffered from syphilis or other bodily diseases, whether, if married, his marriage had been a happy one, whether he has children, and if so, how many and whether they are healthy.

All these questions are essential in order that a picture may be obtained of the patient as he was before he became mentally disordered. As I have already explained, the essence of every psychosis is an alteration of personality. Only by a comparison of the former and the present mental state can an opinion be obtained regarding the alteration in personality that may have taken place, and regarding the severity of the disease. For this reason it is extremely important to know all the details of the patient's previous life, of the surroundings among which he grew up and of his antecedents. Having obtained a clear un-

derstanding of the previous personality of the patient, of the joys and sufferings of his life, the psychiatrist proceeds to an investigation regarding the commencement and the course of the disease. The physician should know whether the onset of the disease occurred gradually or suddenly, whether it followed an injury or severe emotional shock, etc., and whether the change in character took place correspondingly slowly or rapidly.

There are many insane who present pathological traits only in their relationship to their families and to society, but whose bearing when by themselves hardly gives the impression that they are abnormal. Many decidedly inferior individuals appear entirely normal so long as they are free from serious obligations, from worry on account of a large family, from exhausting and responsible work, etc. Hence in them the alteration of character manifests itself far more abruptly when they are exposed to the latter conditions. We should furthermore note whether and to what extent the patient suffers from sleeplessness. Just as the recurrence of regular sleep is one of the symptoms of returning health, so disordered sleep is one of the earliest and most frequent occurrences in the early stage of insanity. Furthermore we must ascertain from relatives or friends whether the patient was in the habit of conversing with himself or with persons who were absent, of listening or staring fixedly in one direction, of searching through the rooms and furniture in the house or by other noticeable actions creating the impression that he suffered from sense deceptions. Moreover we must ascertain whether he had given evidence of delusions, whether he believed himself to be followed or persecuted, whether he suddenly believed himself to be a powerful personage, etc. Under the influence of ideas of grandeur a modest person will become transformed into a boastful one, an economical person becomes extravagant, a timid one intrepid. Notions of self-depreciation make a miser of the prodigal and a coward of the courageous. A man hitherto studiously attentive to his outward appearance becomes careless of his body and clothes. A loquacious man becomes reticent, one of a joyous temperament becomes depressed. The information obtained by means of these questions enables the examiner to obtain a fairly accurate picture of the development of the disease even before he has actually seen the

patient. The information that the emotional change in a patient has occurred more or less suddenly, that without apparent cause the patient's mood has changed from one of abnormal joyousness into one of angry excitement or disinterested apathy, that the patient has refused to take nourishment, has become violent, has made an attempt at suicide, has suffered any marked loss of intelligence and memory, will particularly tend to give a special impress to the suspicion of an existing psychosis.

When the physician has logically associated the patient's family history, the nature of an existing hereditary taint, the patient's previous life, the characteristic manifestations of an alteration of personality, the deleterious influences to which the patient has been exposed and which have culminated in the production of the psychosis, he will in many cases be able from the anamnesis alone to make a probable diagnosis. Nevertheless it would of course be most inadmissible to rely implicitly upon the statements of relatives and friends; an erroneous interpretation of the person's psychic comportment, undue stress laid upon certain symptoms, the non-observance of certain others, would easily make the previous history appear different from what it really is. As in all other diseases, so here the physician must himself see the patient, question him and examine him physically and psychically. What the physician has been told about the patient, or what the patient himself states, can never be determinative for a diagnosis. For this purpose the objective findings alone will be conclusive.

B. Observation of the Patient

Before commencing an examination of a patient, the physician should always state the purpose of his visit. Particularly in the case of refractory patients it is well not to conceal the object for which one has come. The physician should state to the patient that he has been requested to examine him and that he will have no difficulty in determining his actual condition. If he is sick he is to receive care and treatment; if he is in good health a report to that effect will be made. Never in such an examination should the physician forget that he is dealing with a living human being, with one who is mentally abnormal, often irritable, sensitive, suspicious and apprehensive, and one who

will immediately become excited, depressed or intimidated by aggressive questioning. Some insane persons have a just appreciation of their condition and know they are sick. Others lack this insight and believe themselves to be healthy. Possibly they have heard of an undesirable member of a family being placed in an institution by unscrupulous relatives and for that reason they believe they themselves are to be deprived irrevocably of their liberty. The suspicion with which such patients will receive a physician is therefore quite natural. Nevertheless the physician must not conceal from them the object of his visit.

The reception that a patient gives a physician is of itself often characteristic. While the manic patient, who has perhaps never before seen the physician, at once greets and accosts him with a stream of words, the paranoiac moodily or repellently turns his back and refuses to enter into any conversation. The melancholiac is often found lying despondently in bed and receives the caller with indifference, while the stuporous or confused patient pays no attention whatsoever to the physician's entrance.

Whether the inquiry into a person's mental state should be preceded by a physical examination will depend upon the individual case. In some instances the patient gains repose and confidence when he observes that the physician has first taken note of his general appearance, the condition of his tongue, the state of his pulse, etc.; in others the patient is so opposed to any examination that his physical condition can be ascertained only by means of the general observation that can be made while conversing with him. In the majority of instances, as I have already stated, it will be better not to begin the examination with instruments of precision, stethoscope and percussion hammer, but to obtain a general impression from careful observation, carried out under the guise of an indifferent conversation. The patient's physiognomic expression should receive attention first. In many instances the experienced psychiatrist will be able to draw most valuable diagnostic inference from a study of the facial traits and from the attitude of the body. Fuhrman and others have called attention to the fact that there is usually a marked difference in the mimic and physiognomic means of expression of the insane and of healthy persons.

The facial expression of most insane persons at once arouses the suspicion of an existing psychosis. Most forms of mental

disease are characterized by so distinctive a physiognomy that it is almost possible to read the diagnosis from the patient's face. In some patients, particularly in those who will not speak, and in those who are entirely reactionless and cannot be aroused from their stupor, the physiognomy is not infrequently the only available clue to a diagnosis.

The facial expression may be sad, painful, dejected. This is the case in melancholia and all states of depression. The eyes are lustrous but tearless, the forehead is deeply furrowed vertically, or shows the well known wrinkles caused by sorrow. Usually all other mimic play of features is wanting. The same sorrowful expression always persists. The eyes are often cast down and the lower jaw relaxed and pendant. Where the melancholiac is governed by self-accusations or by ideas of persecution, his facial expression will be tense; the staring eyes protrude from their sockets, are glistening and widely opened. The median portions of the eyebrows are raised, the nostrils dilated, the naso-labial furrows deeply marked, the angles of the mouth depressed, the facial traits masklike, immovable, the entire physiognomy, together with the horizontal deeply wrinkled forehead, represent the perfected expression of the sorrowful feelings and delusions that control the patient.

In mania the facial expression is vivacious and noticeably joyous, the forehead is usually smooth, the play of features mobile. The eyes sparkle, the skin at their outer angles is laid into minute folds, popularly known as "crows' feet." The mouth has a smiling expression and the face is usually suffused. A tense, expectant facial expression is characteristic of all patients having sense deceptions. The physiognomy in paranoia is suspicious, inimical, threatening. Patients in this category have a shifting, indirect, expectant look. The lips as a rule are tightly compressed. When questioned these patients smile patronizingly or superciliously, ironically. The facial expression in states of ecstasy is, as so often seen in epilepsy, blissful and enraptured. The glistening, widely opened eyes are usually turned upward, fixed upon one point. The patient's physiognomy is usually a replica of the entranced expression found in the pictures of the Madonna and the saints.

In katatonia, on the other hand, the facial expression is masklike, expressionless. All facial folds are obliterated. There

is but infrequent winking of the eyelids, the patient's look is distraught, vacuous and expressionless. Proud, exalted, presumptuous, often threatrically majestic, is the facial expression of the patient who, dominated by delusions of grandeur, believes himself to be immensely rich or powerful, the head of a nation or the Maker of the universe. In general paresis, even in the beginning, when the psyche is relatively unaffected, the relaxed, weak, undecided facial expression attracts attention. This is often associated with differences in facial innervation, asymmetry as a result of unilateral paralysis of the facial muscles, pupilary inequality and twitchings in the mimic musculature. In advanced cases the physiognomy is apathetically expressionless or reflects the puerile ideas of grandeur or the weak-minded euphoria so characteristic of general paresis.

In the alcoholic we usually find the face coarse, sodden and traversed by enlarged and distended veins; while the face of the epileptic who is not in a state of ecstasy often bears a suffering or dreamy expression. The epileptic, moreover, attracts attention on account of the frequently existing abnormalities of the skull, the thickened lips, the massive and inexpressive forehead and the widely separated eyes with their peculiar stupid expression.

In dementia the face is less indicative of the mental state than it is in the affections we have already mentioned. Often it is impossible to say what constitutes the characteristic expression of the demented physiognomy. In general the facial expression of the insane when dementia has once set in is a permanent one, reflecting in a modified manner the pathological affects (fear, sorrow, suspicion) which have influenced the patient during the acute stage. The play of features is usually most meager, the mouth half opened, the jaw relaxed and hanging, with saliva dribbling from the mouth. A specific demented expression, one that could be utilized for purposes of differential diagnosis, does not exist. Frequently, notwithstanding that a patient's physiognomy would lead one to assume the existence of a dementia, recovery does take place.

In most cases of insanity we find that the patient's posture and gestures accord with the physiognomic expression. The melancholiac is usually found sitting relaxed and sunken, with arms hanging by his side or folded in his lap. The head is

lowered and the entire posture expresses the existing hopeless sorrow, the expressive consciousness of guilt. Melancholiacs move about but little, or they carry out monotonous movements which convey the impression of nervousness and embarrassment; they bite their finger nails, jerk the bed coverings to and fro, pick at the night shirt, etc. When, however, the state of depression is associated with one of fear, as it so often is, melancholiacs may become markedly agitated; then they sigh, lament, wring their hands, run planlessly to and fro, kneel, run toward the door, strike their breasts, tear their hair and cling with apprehension to every one who approaches them. Often they are attacked by a sensation of precordial fear and press their hands convulsively over the region of the heart. In cases of most intense fear, there exists complete immobility. Not a muscle of the face flickers to interrupt the expression of fear and horror, not a limb is moved until possibly a sudden impulsive outbreak (*raptus melancholicus*) annuls the patient's immobility.

On the other hand, the gestures and comportment of maniacal patients are most disordered. They gesticulate vivaciously, frequently assume theatrical poses and are in a state of constant movement. They run to and fro without purpose, skip, jump, dance, roll upon the floor.

In paretics we very easily note the lack of physical control. Even when suffering from delusions of grandeur, the uncertainty of their postural control, their tremor and swaying, often contrast with the feeling of greatness and mightiness that governs them and from which one would expect the assumption of a majestic bearing. In paranoiacs having ideas of grandeur, this contrast does not exist. They assume a majestic pose, the head is proudly lifted, the arms are waved in a theatrical manner, the gait is dignified, everything about such patients tends to impress the people around them. When, on the other hand, the paranoiac suffers from delusions of persecution, his gesticulations are reserved and restricted. Then his manner is forbidding and often threatening.

All dements present one and the same picture. Their bearing is relaxed and without energy, their gait dragging and shaky, the head hangs forward upon the chest, and the body is bent as in old age. Wherever this characteristic posture is found,

an incurable state may with reasonable certainty be diagnosed and prognosticated.

From these descriptions of the expression and physiognomy of the insane, it must be clear that even a good actor or a physician who would study and practice the portrayal of all these symptoms for the purpose of deception could hardly carry out his rôle of simulator with success. It is quite as difficult for a healthy person to feign insanity as it is impossible for an insane person to deceive an expert psychiatrist for any length of time by a simulation of mental health.

Laymen and even shrewd jurists may be deceived by the manifestations of such simulation or dissimulation, but the trained psychiatrist cannot thus be led astray. In the majority of instances, moreover, it is not a question of real simulation but one of a marked exaggeration of symptoms of a disease that actually exists. We know very well that most simulants are psychopaths, who for this very reason are able all the more easily to play their part. The judge as a rule believes the existence of mental disease to be incompatible with the existence of simulation in the same individual; the expert on the other hand knows that simulation is frequent in the insane. Some of the cases of supposed simulation I have had to examine were actually cases of dementia præcox. Many cases of this disease, with their varying antithetic symptoms, do appear so unreal to the lay observer that errors of this kind are not infrequent. If it were possible after a period of years to reexamine those who have been declared simulators, it would be found that in the majority of instances the decision was an error. A patient who was discharged from a criminal insane asylum and sent back to prison on the ground of simulation, when I saw him a year later proved to be an accentuated case of dementia præcox.

Let us now take up the question of the determination of the presence of sense deceptions by means of objective signs. This of course is of the greatest importance. Were the statement of every criminal that he had a vision, had heard a voice, had been commanded by God to do this, that or the other, to be accepted without any possibility of corroboration, the examiner would indeed be placed in an anomalous position. Fortunately, however, such is not the case. There are numerous objective symptoms which must accord with one another before any one

of them can be accepted as a manifestation of a subjective happening. The individual traits of such manifestation may well be imitated but never can the entire combination of parts be copied. He who omits one or another of these component parts or who confounds symptoms belonging to different classes, at once reveals himself to the eye of the trained psychiatrist as a simulant.

The patient with auditory hallucinations keeps his eyes closed, moves his lips slightly every now and then, meanwhile turning his ear attentively in some one direction; or else the eyes and mouth are wide open, while the head is turned upward or sidewise, as though the patient were listening intently. Often and for a long time his respiration is very superficial or almost suppressed; the pulse is hard, tense and retarded. As a result of the sense deceptions, the patient suddenly begins to laugh or to cry, or his face assumes a threatening expression independent of any appreciable external cause. For the recognition of auditory hallucinations in the insane who attempt to conceal them we are dependent above all upon a study of the physiognomy. When such patients, believing themselves unobserved, place no restraint upon their inner impulses, the sudden occurrence of an attitude of marked concentration, as though the patient were listening intently, or a quick inimical side-glance or some other slight manifestation will enable the observer to recognize the existence of auditory hallucinations. The dissimulating patient, also, should be drawn into a prolonged conversation. When this is done he will be found to hesitate from time to time, will be distraught, will here and there ask an inappropriate question and by his facial demeanor will show that he is not listening to the conversation but to some inner voice. Patients who are particularly annoyed by auditory hallucinations will plug their ears or draw the bed covers over their heads to rid themselves of the voices. Notwithstanding these measures of self-protection, they will suddenly begin to scold, make threatening gestures and thus demonstrate that the unwelcome voices have again been heard.

The existence of visual hallucinations may be recognized by the widely opened eyes, the large pupils and the immobile stare fixed upon a certain point. In accordance with the nature of these hallucinations, the patient's expression will be that of bliss,

ecstasy, fright or apprehension. Sometimes the eyes wander to and fro as though endeavoring to rivet the apparently moving but actually non-existent object. Under these circumstances the pupils will change frequently, contracting as the vision approaches and dilating as it recedes. When in the presence of an alarming vision the patient will often close the eyes, rub them and shake himself. Believing himself to be attacked by the visionary beings, the patient will call them by vituperative names or throw things at them. Patients in alcoholic delirium catch and kill the bugs, rats and mice that constitute part of their visionary imagination. Visions are produced almost only in those states in which consciousness is more or less obscured, as in epileptic twilight states, fever, alcoholic delirium, cocaine intoxication or narcosis.

Patients suffering from deception of the sense of taste usually examine their food most carefully, mixing it, tasting a bit here and there, or taking some of it in the mouth, spitting it out again and refusing to eat at all. Others are constantly expectorating, believing their saliva to be poisoned and fearing to swallow it. Patients with olfactory hallucinations sniff around, hold their nostrils, close or suddenly open the window in order to rid themselves of the hallucinated vapor or odor.

The body itself of some insane patients emits a peculiar odor by which these persons may at once be recognized. Usually this odor disappears with a return of health and therefore seems to be connected with some disorder of the secretory organs. This would accord with the newer investigations regarding the ductless glands (thyroid, ovaries, epididymides, etc.) according to which these organs exert an important bearing upon the production and development of certain psychoses.

Finally, in so far as sense deceptions are concerned, I would say that there exists no special objective characteristic by means of which we can determine whether the disorders of general body sensation of which certain patients complain are hallucinatory or not. In many instances, special consideration should be given to the appearance of the clothing and the care of the bodies of insane patients, for these often enable us to arrive at important diagnostic and prognostic conclusions.

In melancholiacs and often also in paretics neglect of the body is an early symptom of the psychosis. On the other hand,

it is a sign of incipient improvement when patients begin again to care for their appearance and clothe themselves with attention. In nearly all excited patients, the clothing is disordered, while in dements it is usually soiled and dirty as a result of their persistent salivary dribbling. In alcoholics this neglect of person and clothing may be used as a direct measure for the degree of deterioration. We need not despair of the drinker who clothes himself with care. Many insane persons dress and drape themselves in a most remarkable manner, particularly when, dominated by their ideas of grandeur, they endeavor to attract attention. In this event we find women dressing their hair in the most extraordinary fashion, and men wearing their beards and hair in astonishing ways. The patient suffering from religious paranoia will wear his hair and beard very long and costume himself so as to be taken for an apostle or a prophet. In many insane the hair grows gray prematurely.

We thus see that we must distinguish two extremes in the outward appearance of the insane—upon the one hand we have fantastic adornment and upon the other complete neglect, both expressing the alteration of personality that has taken place.

In many insane the physiognomy also is most characteristic. Unfortunately, however, it is rarely possible to obtain a photograph of the insane that will actually reproduce this characteristic expression. Of course this is due to the fact that the preparations made for taking the picture will distract the patient's attention from the morbid notions that are present and which in them determine the characteristic expression that we are endeavoring to fixate.

Dornblueth, while studying the old paintings in European galleries, found many in which the artists had most perfectly represented the physical expression of the most varied pathological emotional states. This graphic fixation of depression, exaltation, fear and overbearance was possible of course only because the patients did not realize they were being observed.

Not infrequently the very first view of a person, his appearance and the surroundings which he has made for himself, will enable us to recognize that he is insane. In most instances, unfortunately, the physician has no opportunity of studying the patient's comportment unobserved. When he visits the patient much that would have been significant has been put in order

by the relatives, just as they inadvertently fail to disclose or wilfully distort much of the previous history. For this reason it is of special importance at the very first interview, and before any actual physical and mental examination has been undergone, to pay attention to any external evidences that might give an indication of the existence of mental disorder.

Above all we find the so-called degenerative signs present in many insane. At any rate such signs are more often present in them than they are in normally constituted individuals. The skull may be very much larger or smaller than the average; such abnormal enlargement may be due to hydrocephalus, the vertex then, as though inflated, overtopping the relatively small face, or it may be dependent upon rhachitis, in which case the forehead appears broad, steep and advancing. Withal, notwithstanding the large circumference of the skull, the brain itself may be smaller than normal, or it may be large but with a poor cortical development, as is the case in idiocy. On the other hand, the skull may be very small, yet mental development not be noticeably affected. The highest degree of microcephaly, in which the skull appears as though it were cut off above and behind the ears and is apparently unable to contain half of a normal brain, is occasionally found in feebleminded persons with a fair amount of intelligence. Nevertheless, these deviations in size, as well as asymmetry of the skull, inordinate development of the upper or lower jaw, high vaultedness or flatness of the palate, cleft palate and hare-lip, marked irregularity in the position, or non-development, of certain teeth, malformation of the ear lobes, coloboma and congenital spots of pigment on the iris, etc., are all signs of an imperfect physical structure, which often has its prototype in a definite mental constitution. The prognathic facial formation, characterized by protruding cheek bones and jaws, broad-rooted nose and widely separated eyes, is especially significant of idiocy. A similar significance must be attributed to certain changes of the rest of the body, as for instance goiter, whose influence upon psychic functions has been more clearly recognized during the last few years, rhachitis, deformations of the long bones, marked deviation in growth, dwarfism, acromegaly, albinism, malformations of the sexual organs, etc.

As I have explained in considering the causes of disease,

the general nutritional state bears a close relationship to mental life. Special significance attaches to all states of bodily weakness when accompanied by nervous disturbances, with anæsthesia or hyperæsthesia of special tense, or with neuralgias and vasomotor disorders, because all of these may form the basis for erroneous notions or may augment until they themselves represent a state of psychic disease. An equally instructive point is the determination of the body weight, which decreases regularly in acute forms of mental disease and increases when recovery or a transition into dementia sets in. During the excited period of a manic depressive psychosis the body weight not infrequently increases, while in acute mania a loss of weight is regularly observed. In the chronic psychoses the patient's weight changes as it does in health, conformably with external conditions; it is only in general paresis that we usually note a progressive increase in weight which later gives way to a steady loss.

In various mental diseases the body heat often deviates from the normal without any external or accidental influence being present to account for the change. In melancholia the temperature usually is somewhat reduced, this condition being often most pronounced in the evening, although any intercurrent paroxysm of fear may be the cause of the lowest temperature of the day. In mania the body heat is increased by about a degree Fahrenheit during the excited periods. In acute confusional insanity the evening maximal temperature is often absent, but marked variations are evident and an irregular rise often occurs during the day independent of any emotion or excitement. The temperature in hysterical mental states is subject to very similar variations. In stupor it is usually reduced, while in the more severe cases of acute confusional insanity high fever occurs during the delirium. In dementia paralytica a constant slight rise, with marked exacerbations, or, on the other hand, with a fall of even as much as 10° F. after a paralytic attack, is not unusual. The pulse usually is normal in frequency but in states of stupor is often retarded. In such stuporous, as well as in depressive states, it is often of high tension, while in the terminal state of dementia paralytica it is flaccid and dicrotic. During an attack the tension is somewhat increased. The blood pressure is not increased in any of the psychoses except

in those associated with advanced age. The increased blood pressure so often found in cases of the latter class is not related to the psychosis as such but is part of a general arteriosclerotic state in which blood pressure is often high.

Changes in the quantity and consistency of the urine bear no special relationship to any form of mental disorder. Albumin, without disease of the kidneys, may be found in the urine after epileptic attacks, in delirium tremens and in paresis—in the latter particularly after the paralytic attacks. Glycosuria occurs no more frequently in the insane than in persons who are mentally healthy.

Menstruation usually ceases during attacks of acute mental disease, frequently setting in again when improvement takes place and often doing so only after recovery has become complete. In chronic and incurable cases there is usually no menstrual disturbance.

The increase of salivary secretion that occasionally takes place can be determined only with difficulty, because the salivary dribbling often noticed in stupor and demented patients is simply the result of lack of attention and mechanical control and is not due to an actual increase in salivary production.

In all states of depression, digestive disorders are particularly frequent and these in turn react injuriously upon the mental state.

Sleep is usually markedly disordered in all acute psychoses. In chronic mental disease sleep disorder occurs as a rule only in consequence of affects.

In some cases the employment of the otoscope and ophthalmoscope will disclose important findings. These methods of examination will of course not enable us to recognize the existence of a psychosis, but they are of diagnostic value in determining the presence of some disease of the peripheral sensory organs which might be the cause of existing sense deceptions.

Speech and handwriting, entirely aside from the confusion of their contents, may give many valuable indications through their form and structure. The excessively rapid speech of the maniac accords with his handwriting, in which, on account of the flight of ideas, too little time is given to the complete formation of single words or no attention is paid to punctuation. The uncontrolled motor agitation also becomes manifest in the

constant underscoring of words, bracketing of sentences, and the disfigurement of the entire page with ink marks, lines and curves.

On account of his mental inhibition, the melancholiac can neither speak nor write connectedly; at most he can utter a few hesitating words and sentences, and he is able to write still less. All other forms of mental disorder are also characterized by individual modes of speech and handwriting, concerning which more will be said in the chapter on special diagnosis.

It was my wish at the present moment merely to indicate that observation of the patient will furnish certain valuable diagnostic objective clues, provided of course that these objective changes be not directly related to purely bodily causes or that the existing psychosis be not associated with some infectious state or other pathological condition in consequence of which a mixed symptom complex is produced.

C. Physical Examination

The physical examination should consist of two parts: first, a general inspection of the anatomic-physiologic relations, and second, a special examination of the nervous system.

1. Anatomic-physiologic relations

More recently there has been a leaning of psychiatry toward the special characterization of the psychically abnormal individual in accordance with his outward conformation. This—so to say—zoological procedure has found its most extreme exponent in Lombroso and in his doctrine of the congenital criminal, who, he maintains, represents a special anthropological type with definite physical and psychic characteristics of degeneration.

The Lombroso school lays greatest stress upon a recognition of the so-called signs of degeneracy which are interpreted to be manifestations of regression to an earlier developmental stage (atavism) and which occupy but a subordinate place in modern psychiatry. This doctrine of degenerative stigmata has been elaborated so that it may be said to constitute an inane pastime, a mechanical interpreting of signs; hence its results should be

diagnostically utilized with the utmost caution. Nevertheless, psychiatry cannot renounce any source of information. The entire individual must always be considered and an endeavor should be made to discover all those relations that undoubtedly exist between the psychic manifestations of life and the bodily processes but which our present means of investigation have not yet been able to disclose. We still have no scientific explanation for these relations, and therefore must be satisfied with a precise description of certain anatomic-physiologic conditions which experience has taught us to look upon as indications or accompaniments of mental disorder.

Of these, perhaps, the form of the skull should first be considered as likely to furnish us with some information—yet all deductions from such a study should be carefully controlled, lest they lead to fantastic exaggerations similar to those that have formed the basis of Gall's "Phrenology." Up to the present it has not been demonstrated, except in very few pregnant instances, that any direct relationship exists between the psychoses and skull formation. Nevertheless it is necessary that the skull be carefully examined in all instances. This may be done by three simple methods—inspection, palpation, and mensuration.

By means of inspection we can determine whether there exists any asymmetry in the conformation of the skull. Often it is most easy to recognize such asymmetry when the skull is viewed from above. Slight asymmetries in the conformation of the skull and its component parts, such as a marked prominence of one frontal region, are very frequent and occur so often in normal individuals that they are of no diagnostic significance. More pronounced asymmetries are encountered in many psychoses, especially in idiocy and epilepsy. Palpation of the skull will give us information regarding the location of the sutures and possibly an indication as to the relative size of the individual lobes of the brain. Ossification of the sutures may easily be determined and after one has had some practise in palpating the skull the normal sutures can be recognized without difficulty. In all cases in which such examination of the skull seems to be important, the scalp should be shaved and the sagittal, lambdoidal and coronal sutures marked upon it by means of an aniline pencil. Measurement of the skull is carried out partly with

a tape measure, partly with calipers. Normally the largest horizontal circumference taken at a level of the glabella and external occipital protuberance is forty-eight to fifty-six centimeters; the longitudinal diameter, between the glabella and occipital protuberance, sixteen to eighteen centimeters; the largest transverse diameter between the two most distant lateral points of the skull, fourteen to fifteen centimeters. A determination of the proportions of the skull, the so-called cephalic index, may be of some value. This is the ratio of maximum length to maximum width. Skulls with an index of seventy-five or less, that is, when the width is three-quarters or less of the length, are considered dolicocephalic or long skulls. Those of an index of eighty or over are brachycephalic or broad skulls. Intermediate indices, between seventy-five and eighty, are considered mesocephalic. Malformations of the skull are most frequently encountered in idiocy and epilepsy. In hydrocephalus the horizontal circumference may be sixty centimeters and more and the transverse diameter seventeen centimeters and over, while in microcephalus the horizontal circumference may not reach forty centimeters and the transverse diameter not twelve centimeters.

It would seem that the anthropometrical skull measurements have thus far not furnished results available for psychiatric diagnosis that are commensurate with the time and care they require. For all practical purposes the facts we have given will suffice. The examination of the skull may be followed by an examination of the rest of the head. Among the so-called degenerative signs that may be found during such examination are marked prominence of the jaws (prognathism), asymmetries, high vaultedness of the hard palate, inequality of the two halves of the face, hare-lip and cleft palate.

The hair of the head of insane patients often becomes prematurely gray or loses its luster and becomes fragile. Other anomalies in the growth of the hair have also been described as degenerative signs, but these in our opinion are of no practical value. The growth of the hair upon the rest of the body often shows various noticeable abnormalities. The anomalies of the teeth regarded as signs of degeneracy are irregularity of position and abnormality in size. The formation known as Hutchinson's teeth is most often encountered in hereditary *lues*.

During an attack of convulsions epileptics sometimes break single teeth; the finding of tooth fragments therefore may lead one to suspect the existence of epilepsy, but in itself this by no means warrants the conclusion that epilepsy is actually present. In this connection it may be well to reiterate that the presence of any of the so-called degenerative signs, taken alone, is never sufficient reason for concluding that a psychosis exists. Such signs merit consideration only when they are associated with other psychopathic symptoms.

Certain observers base their psychiatric deductions in part upon the conformation of the external ear; and quite a series of abnormal or anomalous ear formations have been classed among the degenerative signs. For instance, importance has been attached to asymmetry as to seat and size, unusual prominence of the entire auricle, a more or less prominent helix with or without a tubercle upon its border (the Darwinian ear), a preeminence of the anthelix (the Wildermuthian ear), an absent helix (Morelian ear), an absent anthelix, an attachment between anthelix and helix, accessory anthelices, coloboma lobuli, etc. As a matter of curiosity, let it be mentioned that some of the older psychiatrists looked upon softness of the ear as an unfavorable sign. As a matter of fact the chronic insane do often have very soft but otherwise well-formed ears, which may be folded together like thin cloth.

Among the degenerative signs found in the visual organ, the following have been enumerated: an abnormal entrance of the central retinal artery, albinism, coloboma of the iris and irregular pigmentation of the choroid.

Habitual luxation of the extremities, polydactyly, web fingers, nævi, exaggerated growth of hair upon the body and closely approximated eyebrows, are all said to be degenerative signs. A somewhat greater significance should be attached to congenital deafness and blindness, as well as to anomalies of the sexual organs and to their dependent sexual differentiations. Such anomalies are not infrequently encountered in insane persons and in general probably do indicate a marked degeneracy. They are: a feminine build of the body in man (broad pelvis, female breasts) and a male habitus in women (developmental faults in the pelvis and thorax, beardedness, deepness of voice), congenital sterility, hermaphroditism, epispadia and hypospadia,

cryptorchism, uterus bicornis, atresias. It appears to be certain that women of markedly inherited psychopathic taint not infrequently show developmental disorders as a result of which their capacity for child bearing, or for nursing children when they do bear them, is restricted, and the maintenance of the race thus endangered.

No matter in what form these signs of degeneracy may manifest themselves, it is as yet impossible to explain the causal relationship that exists between degenerative signs and psychic disorder, or to trace the relationship between certain bodily characteristics and certain mental diseases. Hence these signs of degeneracy do not possess any great diagnostic significance, notwithstanding that frequently individuals who bear many such signs must be looked upon as degenerates or as particularly predisposed to the development of psychoses. What is much more easily understood is the tendency of the blind or deaf to develop mentally in an abnormal way, for the absence of important sense perceptions must necessarily inhibit the intellectual growth. How we are to understand the connection or the reciprocal relationship that is supposed to exist between individual physical and mental signs of degeneracy can at most be a question of surmise. It would be absurd to maintain that prognathism is the cause of a psychic defect or on the other hand that the psychic defect is the cause of the prognathism.

Probably the same cause that has brought about the prognathism has also been active in the production of the psychic defect. Other manifestations are probably to be explained in a similar way. Together with the physical signs there may also be present certain psychic signs of degeneracy, the latter term being employed to cover all those psychopathological traits through which the psychic equilibrium of the entire personality is disturbed and, frequently enough, the social existence of the individual endangered. In the class of *déséquilibrés* who show such psychic defects belongs a large number of very talented persons. The disharmony of psychic functions in these people is caused by a strong predominance of certain traits associated with a dwarfing of certain others. Marked intellectuality accompanied by feeble will power, an abnormally vivid imagination accompanied by a lack of judgment, preeminent animal instincts associated with a lack of ethical qualities, constitute

the most frequent examples encountered in this group. Many sexual perverts, many pathological swindlers, confidence men and other criminals, as well as many talented persons of the underworld, are found among these *déséquilibrés.*

Almost all of them show a marked intolerance to alcohol, and hence this, too, may be looked upon as a sign of degeneration, assuming of course that it is associated with other pathological characteristics.

After the presence of signs of degeneracy has been determined, an examination of the internal organs of the body should follow. Special attention should be given to the lungs, inasmuch as tuberculosis is very frequently found associated with psychoses of various kinds. Katatonics with persistent general muscular spasm, melancholiacs and stuporous patients, are most prone to this complication in consequence of their superficial breathing.

Salivary secretion is often increased, especially in dementia præcox and other katatonic states. Demented and stuporous patients permit the saliva to dribble from their mouths. Paranoiacs will infrequently be found expectorating everywhere in the endeavor to throw off poison which they believe has been introduced into their bodies. The secretion of tears, strange to say, is usually decidedly diminished or entirely arrested in true melancholia. Many melancholiacs complain that the solace obtained by shedding tears is denied them. This circumstance may be of diagnostic value when the depressed states in paresis or hysteria are to be differentiated from true melancholia, for in them the flow of tears is often very profuse.

In all states of depression digestive disturbances, more particularly intestinal inertia, are often present. Disturbance of micturition is encountered in the most varied forms of mental disorder; enuresis nocturna in epilepsy; paralysis of the bladder in paresis, retention of urine in hysteria and epilepsy. Careful attention should be given by the examiner to the circulatory organs. Arteriosclerosis, calcification of the coronary arteries and angina pectoris are encountered not only in paretics and senile patients but also in youthful individuals. It is clear that the disorders of brain nutrition caused by arteriosclerosis must be of great significance for the diagnosis of mental disease. For a long time marked stress was laid upon the importance of examination of the blood. It now becomes more

and more clear, however, that qualitative and quantitative blood changes are not sufficiently characteristic to be of assured value in diagnosis and differential diagnosis. There exists no anæmia, plethora, leucocytosis, polycythemia, poikilocytosis, etc., that may be considered a specific criterion of any definite psychosis. Probably with an improvement in our microscopical technique or with a discovery of still other chemical reactions this statement may require modification, but as yet no psychiatric diagnosis can be made from the blood findings alone. On the other hand, the Wassermann reaction is truly valuable, for by this means we are able to recognize with certainty the presence of syphilis.

The investigations of Wassermann and others have lent such great significance to the examination of the blood that no psychiatric diagnosis can be considered valid unless this reaction test is made. Wheresoever the reaction, the nature of which need not be described here, is positive the patient may be assumed to be syphilitic. The cerebrospinal fluid, obtained by means of lumbar puncture, should in all doubtful cases be subjected to the same test, for not infrequently the blood may give a negative reaction to the Wassermann test, while the spinal fluid gives a positive one. The spinal fluid should also be examined in regard to its cell and globulin contents. It has been shown that in certain organic diseases of the nervous system the cellular elements of the cerebrospinal fluid are materially increased (lymphocytosis) and that in these same diseases an opalescence or even a pronounced turbidity will be produced by mixing a cold saturated neutral solution of sulfate of ammonium with equal parts of spinal fluid (globulin reaction).

The Abderhalden sero-diagnosis is a method of blood examination which, as yet, cannot be said to have fulfilled expectations. The most we can say of it is that the "defensive ferments" have given satisfactory information in testing the organic functions in a series of cases. Very recently the defensive ferments, or rather the reactions that indicate their presence in the blood, have played an important rôle in the recognition of disorders of internal secretion. We know that dysfunction of the thyroid gland and other ductless glands (hypophysis, parovaria, etc.) may give rise to psychic disturbances. The eminent significance of the defensive ferments for psychiatric diagnosis, therefore, lies in the possibility of being able by their

aid to recognize disturbances of internal secretion, at a time when clinical symptoms are as yet but slightly marked. Nevertheless we should not forget that a final judgment regarding the value of Abderhalden's sero-diagnosis in psychiatry and the rest of medicine is not yet possible.

No physical examination would be complete without an investigation of the state of sexual excitability. This will be found increased in mania and in the commencement of paresis and not infrequently also in the early stages of senile dementia. On the other hand, sexual excitability is markedly diminished in all states of depression and in the later stages of all dementias. It is entirely lost in the last stages of alcoholism, morphinism and paresis.

In female patients inquiries regarding the menstruation should not be neglected. The menstrual period frequently acts upon the patient as a disturbing factor. Not infrequently the menstruation disappears during a psychosis, only to reappear when health has been restored. In alcoholics and morphinists the menses often cease. Sometimes the onset of psychic disorders of a borderline type may be directly related to a cessation of ovarial function. This applies to the disorders of climacterium and to those states of excitement that follow operative removal of the ovaries.

The body weight must always be carefully controlled. This, however, is more of prognostic than diagnostic value. In general the body weight declines in all acute psychoses and returns to normal with the beginning of a return to health. Not infrequently the bodily condition begins to improve and the weight starts increasing before any amelioration in the mental state can be noticed. When the body weight steadily increases without being accompanied by any improvement in the mental state, the prospects for recovery become less favorable. Depressive patients who accumulate fat, in fact all insane patients who gain weight rapidly under normal dietetic conditions, should arouse suspicion of a beginning dementia. Another common sign of dementia, particularly in youthful individuals, is the voracity that may be the cause of the adiposity. In some cases of paresis and melancholia the body weight decreases enormously, even when, on account of the refusal to take food, the nourishment of the patient is effected by means of a stomach

tube and when organic changes of the digestive tract cannot be found.

Finally we proceed to an examination of the pulse, temperature and urine. In stuporous states the pulse is often retarded to fifty or less per minute; in excited states it is accelerated. A contraction of the radial arteries is found in states of stupor and melancholia.

During the convulsive attacks of paretics and epileptics the temperature is often increased. When a reduction of temperature below 90 degrees F. occurs in paresis, as it not infrequently does, it is indicative of a beginning moribund state.

The urine is often markedly diminished in depressive and stuporous states and frequently increased in paresis. Albumin is found in the urine of alcoholics and paretics, and in that of epileptics after a series of attacks; sugar is found in the urine of paretics, acetone bodies in that of patients whose nutrition has been markedly reduced as a result of their refusal to take food and also in paretics with digestive disturbances. Often in the latter indican will also be found in the urine.

2. THE NERVOUS SYSTEM

After we have determined the presence or absence of anatomic-physiologic deviations and of those physical and psychic traits that modern teachings look upon as signs of degeneration, and after the general physical examination has been completed, we should next enter upon the special examination of the nervous system. This is of the utmost importance—especially for the diagnosis of dementia paralytica. Attention should first be given to the pupils. Pupilary difference is often found in paresis, but often also in psychoses of other nature and even in normal persons. Considered by itself, such inequality has but limited diagnostic value. Sluggishness of the pupilary reaction is characteristic of alcoholism and paresis; contracted pupils speak for morphinism and tabo-paresis; dilated pupils for epilepsy, paresis and cocainism; reflex pupilary rigidity is indicative of alcoholic intoxication, senile dementia and dementia paralytica, and loss of convergence reaction of paresis. The presence of pupilary rigidity in a middle-aged person with mental disorder should always arouse the suspicion of paresis.

Weakness or paralysis of the ocular muscles (ptosis, strabismus, etc.) is encountered in brain syphilis, paresis and the alcoholic psychoses, nystagmus in paresis and other organic diseases of the brain. Contraction of the visual field, clonic spasm of the lids (blepharospasm) and rolling of the eyeballs are indicative of hysteria.

The disorders of facial innervation that are important for psychiatric diagnosis are as follows:

Asymmetry of the two sides of the face—this, when not congenital, often constitutes a disorder of innervation that is symptomatic of paresis.

Associated movements—a frequent symptom in paresis; in talking, opening the mouth, protruding the tongue, a large part of the facial territory or the entire facial territory often becomes energized at the same time, so that an actual undulation of the facial muscles sets in. Similar associated movements are met with in stutterers and idiots.

Tremor of the lips in alcoholics and paretics.

Unequal innervation of the two halves of the soft palate in paresis.

The disturbances of hypoglossal innervation encountered are tremor and ataxia of the tongue in alcoholics and paretics; fibrillary twitchings in paretics; lateral deviation in paretics and apoplectics. An examination of speech should be made, preferably immediately following the examination of the tongue. This will be found particularly valuable in the diagnosis of paresis. In the beginning of this disease speech is often merely hesitating, retarded and peculiarly tremulous. Errors of speech are infrequent at first, but can often be elicited even at this stage by asking the patient to repeat certain difficult words. Soon the hesitating speech becomes transformed into a stuttering one; word stumbling sets in or certain syllables are entirely omitted. At the same time the voice often becomes raucous and monotonous, and in some patients hoarse or nasal. Ultimately speech becomes entirely unintelligible (ataxic aphasia). Sometimes a patient under examination does not talk at all and every question remains unanswered. This symptom, mutism, is of great diagnostic significance. Complete aphasia may be the result of destruction of the speech center, and may have developed gradually from the earliest degree of paretic speech

disorder or may have come on suddenly. Moreover, complete aphasia may be produced by apoplexy or may be the result of a general atrophy that has involved the brain cortex without necessarily implicating the speech center. Mutism as a result of an apoplectic attack is of no psychiatric interest; when it occurs in consequence of cortical atrophy, it is indicative of senile dementia, and when it results from a gradual destruction of the frontal brain cortex, it is characteristic of paresis. Mutism, however, it not always indicative of an organic paralysis of the vocal organs; sometimes the paralysis is essentially functional (hysterical) in nature or else the patient, while perfectly able to use his vocal organs, does not do so because he is under the spell of delusions which forbid him to speak. It is this that most often explains the mutism of patients who are in a state of stupor.

Finally, mutism may be due to dementia. Whereas, in the instances previously enumerated, the patient undoubtedly understands the questions put to him, the demented person is mute because he is entirely unable to comprehend the sense of the questions asked and has no ideational store upon which he can draw. Idiots and cretins of a lower grade never learn to speak because they have no ideas which they might express in words. In other instances, where there is a question not of congenital but of acquired dementia, the loss of articulate speech constitutes part of the increasing dementia. Errors of differential diagnosis regarding the cause of total aphasia can hardly occur, for if the patient is asked to give the reply in writing he will at once show whether he has understood the question or not. An attempt to induce a mute patient to write should always be made, as many important disclosures may be obtained by this means; just as in health, many of the patient's characteristic traits will be divulged in the handwriting. Particularly can the degree of a person's education often be recognized through a glance at his chirographic productions by the experienced observer. For the psychiatrist, however, it is more a question of a study and analysis of the form and contents of the patient's written productions than of the handwriting itself. This examination is of significance not only for the psychiatric diagnosis of the individual case but, in certain forensic connections, it may also constitute the sole means for casting light upon legal

questions. Where this contingent arises it will be necessary to obtain writings of the patient executed at a time when there was no question of the existence of mental disease, and to compare them with the later ones. Great importance has always been attached to the examination of the handwriting in paresis. Not infrequently an alteration of the handwriting, especially in the case of well educated persons, is the most noticeable symptom in the beginning of paresis. The diminished efficiency of the nervous system demonstrates itself in the handwriting precisely as it does in the speech utterances and in other disturbances of function. Early in the course of paresis the handwriting is often merely disfigured on account of the more or less marked tremor that exists. The formation of the individual letters shows this tremor very well. Even at a very early stage of the disease the handwriting often becomes markedly altered in consequence of the ataxia of the hand or fingers that associates itself with the irregular muscular tremor. The writing becomes disorderly, irregularly undulating, with uncertainties in the up and down strokes. This ataxic writing constitutes a transition to the paretic handwriting, in which the existing psychic defect manifests itself in a more or less drastic manner. The patient omits single letters, syllables, or even entire words, makes mistakes in spelling and errors in grammar which he formerly would never have made, repeats words and sentences, makes frequent corrections and erasures, blots and defaces the page so that often a glimpse of the writing is enough to establish the diagnosis. In fact, a long standing symptom complex indicative of paresis should become questionable if it fails to include any disturbance of the handwriting, even though the contents of the written production may reveal the existence of delusions. Tremorous writing is found also in other psychoses. As a point of differential diagnosis it should be noted that tremorous writing without ataxia, in fairly distinct wavy lines of equal size, is characteristic of senile dementia, while tremorous writing in fine fairly regular undulating lines is significant of alcoholic delirium. The writing of epileptics who have tremor is also tremulous, of course, but the undulations are more irregular and are sometimes interspersed with ataxic excursions.

Other forms of psychic disorder are characterized less by the form of the handwriting than by the contents of the written

composition. Thus the writings of juvenile dements are found replete with senseless phrases. Those of paranoiacs disclose the delusions that they otherwise carefully conceal. In those of the maniac we find plainly revealed evidences of accelerated flow of ideas, in those of the melancholiac evidences of inhibited flow of ideas. The test of speech and handwriting, however, does not complete the examination of the nervous system.

Ophthalmoscopic examination, by the disclosure of choked disc, will often show the presence of cerebral neoplasm, or by the demonstration of an optic atrophy will call attention to an existing tabes. Certain paralyses may be recognized as hysterical by the disorders of sensation and other characteristic symptoms that accompany them. Such paralyses will disappear when the morbid ideas which caused the disorder of function have been dispersed by suggestion or by other means. The organic paralysis present in certain psychoses may be of central or peripheral origin, and light will be cast upon this question by an examination of the reflexes. The superficial and deep reflexes should of course be examined carefully in every instance. They will often be found increased in the early stages of paresis, while in the late stages of this disease, as well as in alcoholic neuritis, they are often absent. Sensory disturbances are encountered as hyperæsthesias in early paresis, as hemianæsthesia in hysteria, as lancinating pains in tabo-paresis, as headaches and migraine in paresis and in epilepsy, etc. All these points will receive more specific attention in the following chapters.

D. Testing the Mental Behavior

Thus far the examination, in the main, has been confined to an external observation of the passive patient. From such observation the physician has obtained a general impression in regard to any material difference that may exist in the patient's appearance and comportment from that existing in other persons of the same age, sex, and position in life. In order, however, that he may gain an insight into the psychic and physical functional efficiency of the patient, a further examination, one that requires the patient's cooperation, is necessary. As I have already stated, special consideration will determine whether in an individual case the mental capacity should be tested first and

the condition of the physical organs, the reflexes, etc., be studied later, or whether this mode of procedure should be reversed. Under all circumstances the physician must start from the premise that no immutable standard of health and disease exists, and hence the result of any investigation can be of value only in so far as it discloses to what extent the efficiency of the individual under examination remains behind that of the other individuals living under similar condition and behind his own former capabilities.

The first thing to be tested is the patient's orientation in regard to his own person, in regard to time, space and surroundings. He should be questioned as to his name, age, place of birth, parents, brothers and sisters, as to his family conditions and occupation, in regard to the present day of the week, the month and the year, the season of the year, and his present place of residence or sojourn. Partial or complete disorientation is a symptom of the greatest diagnostic significance; consequently, in every case of mental disease, we should endeavor to determine precisely whether any deficiency in the power of orientation exists, to what degree disorientation may have advanced and what fields it involves. For example, one patient may know he is in an institution but be unable to give his age; another may not know the day of the week or the month of the year; and still another may have lost all recollection of his family and previous associates.

Slight degrees of disorientation, especially mistakes regarding time, are encountered in almost all psychoses. The fact that some patients do not know the day or the date is of no diagnostic significance, provided their orientation in other directions is good. A much more serious manifestation is complete disorientation. The latter occurs in all acute psychoses with marked confusion, such as epileptoid states, acute hallucinatory states, and febrile and alcoholic delirium, and in states of deep dementia like idiocy and the final stages of paresis and deterioration.

Before we proceed the term "confusion" requires some elucidation. In psychiatry it is used to represent a state of obscured consciousness, in which partial or complete disorientation exists regarding time, space, surroundings and self. The degree of disorientation usually parallels the depth of the disorder of

consciousness, although instances do occur in which orientation remains intact notwithstanding the existence of pronounced disturbances of consciousness. Applied in this strict sense, the notion of "confusion" acquires extraordinary value for diagnosis and prognosis, and for this reason in all acute psychoses it is most important to ascertain whether and in which domains disorientation exists, whether it is combined with any disorder of consciousness and whether sense deceptions and delusions are present.

It is precisely the relationship that exists between outward disorientation and the contents of the delusions that is of essential prognostic significance. The more senseless the delusions and the more complete the orientation the more unfavorable will be the prognosis. The more unconnected the delusions and the greater the disorientation the better will be the prognosis. These premises have great psychiatric importance. It will be easily understood why a mental disease in which delusions develop notwithstanding the preservation of the power of orientation must be much more serious than a psychosis in which the delusions are the natural outcome of a lack of orientation. In the first instance there exists a control which enables the patient to recognize the senselessness of his delusions, the unfavorable factor being that this control, i. e., the power of orientation, is not exercised. In the latter instance the delusions arise essentially in consequence of the disorientation. With a return of the power of orientation the control again becomes operative and the delusions disappear just as logically and naturally as they arose. A priori it is incomprehensible how delusions can arise in the presence of complete orientation; the fact that they do so arise constitutes the gravity of the conditions. The relations that obtain between orientation and the psychoses can best be explained by means of examples. An instance frequently encountered is the following:

A person who under certain extraordinary conditions has committed an act of violence is placed under psychiatric observation. The examiner finds him with face suffused and perspiring, persistently fumbling with his bed clothes, shaking the blankets, tugging at the sheets, wiping them, getting out of bed and stamping upon the ground as though he were crushing something with his feet. Upon being questioned the patient in-

sists his bed is full of insects and that they are crawling all over his body. His movements are abrupt and unsteady. His hands and feet tremble, his gait is stumbling and swaying. He answers questions only when addressed in a loud tone. He states his name and occupation correctly, but gives incorrect answers to questions concerning his place of birth, his age, the season of the year, the date and the day. He believes he is in the bedroom of his own home, and the strange surroundings of the hospital leave him entirely unaffected.

Hence, he shows the following symptoms: Marked motor unrest, sense deceptions, pronounced tremor, complete disorientation as to time, space and surroundings and partial disorientation in regard to his own person. All this constitutes the typical picture of an alcoholic delirium. The act of violence he has committed must, therefore, be looked upon as the deed of a chronic alcoholic lacking in free determination and in responsibility.

Another patient is found in bed, her face wearing an expression of deepest depression and her forehead showing the wrinkles and furrows characteristic of grief. Her hands are clasped and she whispers words of prayer. Her pupils are noticeably large, her facial expression is ecstatic, one of dreamy suffering. Occasionally a beatific smile passes over her countenance; then she stares searchingly at a certain point of the ceiling. Being questioned, she answers she has seen God's angels hovering above her. Next she begs that she may be allowed to go home. She asks to be enlightened as to what is to be done with her. She claims the air is heavy with the smell of sulphur; people who were at her bedside had ridiculed her, had scolded her and she wants such doings ended. In regard to her own self she gives perfectly clear information; on the other hand, she is completely disoriented in regard to time, place and surroundings. She is unable to tell the day, date or season; she does not know she is in a sanatorium, etc. The first impression is that this patient is suffering from a state of depression. But the dreamy expression of her face, the complete disorientation as to time and place, the passing beatific mood arising in the midst of her emotional depression, as well as the sense deceptions (visions of angels, hallucinations of smell and hearing), leave but little doubt that we are dealing with an epileptic twilight state of a

depressive character. That such persons, when dominated by sense deceptions of an irritating nature, may become dangerous to themselves and to their surroundings, has already been mentioned.

During the first psychic examination a patient will occasionally create the impression of complete disorientation, while a subsequent test will show him to be very well oriented. If this change from disorientation to orientation takes place within a very few hours, although nothing else in the patient's condition has been altered, we are prone to assume he is wilfully trying to deceive the examiner. The assumption becomes all the more plausible when the patient's erroneous responses to questions are given quickly and without hesitancy, quite as though they had been premeditated. Nevertheless the patient should not be looked upon as a simulant, for under similar conditions the simulator would be persistent and would always give the same premeditated reply to repeated similar tests. Under no circumstances would he first answer a question erroneously and later reply correctly to the same query. It is above all the incongruity of responses that constitutes the symptom of disease in cases of the sort under consideration.

An accurate orientation test is of decisive diagnostic value in two psychoses which, notwithstanding certain fundamental differences, are often confounded. These are acute hallucinatory confusion and dementia præcox paranoides. The former is a psychosis that terminates in recovery or death; the latter a chronic degenerative process, usually leading to complete deterioration. As an example of a case of acute hallucinatory confusion, let us take a woman who presents the following picture:

The first impression is that of a stuporous, barely conscious, insane individual. More detailed observation shows her face to be distorted and drawn, her expression apprehensive and timid, her hair undone and hanging disheveled over face and shoulders. The entire state of the patient is one of marked apprehensive restlessness. She appears to be defending herself against attacks; with hands and feet she blindly beats the air; she kicks things away from her, wounds herself repeatedly in her senseless efforts and exposes her body without the least feeling of shame. Her speech is unconnected and dragging, and no definite

information can be obtained from her. The picture is made up of a pronounced clouding of consciousness with complete disorientation, persistent apprehensive restlessness linked with incoordination, and a facial expression distinctly indicative of serious disease and semi-stupor. Acute hallucinatory confusion is of frequent occurrence, but must be classed among the curable psychoses.

The paranoid form of dementia præcox resembles hallucinatory confusion in many ways. Let us consider the following typical case, that of a young man in a state of pronounced apprehensive excitement. The facial expression is one of great fear and horror, and the patient is manifestly dominated by auditory deceptions of an appalling nature. Suddenly he jumps up, listens apprehensively, makes an endeavor to escape, then suddenly becomes immobile as though riveted by fear; he sinks back into bed and cries aloud for help, fearing he is to be attacked and torn to pieces. Thus the patient is in a state of constant unrest and anxious excitement; nevertheless all his movements are purposeful and coordinate. His facial expression bears no mark of stupor or dulness. On the contrary, he is alert and constantly watches everything about him in an apprehensive and distrustful manner. The patient's orientation, notwithstanding his great excitement and the existing sense deceptions and delusions, can be easily tested. The test demonstrates the patient to be almost completely oriented in regard to his own person and in regard to time, place and surroundings. Thus we see that, notwithstanding the concordance of certain symptoms, the picture of disease presented by this patient differs materially from the one presented by the patient suffering from hallucinatory confusion. In the present instance orientation is completely preserved, in the other it is entirely lost. In the one the movements are purposeful, in the other they are unbridled and aimless. In the one, behavior is orderly and, considering the hallucinatory premise, logical, while in the other the conduct is entirely disordered. Moreover, the marked degree of orientation that is present in spite of the mass of hallucinations and delusions, shows us that in this case we are dealing not with a prognostically favorable hallucinatory confusion, but with a degenerative process which will end in chronic deterioration.

After having determined the degree of a patient's orientation, the physician should obtain from the patient himself a precise anamnesis of his previous life, as well as of the period immediately antedating the development of the psychosis. In this manner new facts of importance regarding the previous history are often obtained, facts which have been overlooked or purposely concealed by the relatives. Thus also we will often be able to clear up certain points of diagnostic importance, as for instance the patient's subjective feeling of illness, his insight into his own condition, his memory, his power of judgment and his general intelligence. All this, of course, cannot be done if the physician is unable to gain the confidence of the patient.

If the patient looks upon the physician as a sort of legal inquisitor he will not be likely to disclose his innermost thoughts and feelings. Many insane persons are most suspicious and uncommunicative, and they must be convinced of the physician's desire to help them before they will talk. Frequently it is most difficult for the physician to place himself upon the thought level of an uneducated and unintelligent patient. The latter, however, is often quick to notice whether the physician understands him and sympathizes with him or not. Many patients, therefore, will remain morose and distrustful simply because they have no confidence in the physician and, as they do not respond to tests, no correct impression of their true intellectual state can be obtained. In forensic cases it is, of course, doubly important that an accurate anamnesis be obtained from the patient himself and that all statements made by the patient should be recorded.

Analysis and diagnostic application of the patient's statements are possible only after it has been determined whether sense deceptions are present or absent. It need hardly be said that the statements made by patients in giving their previous history must be corroborated before they can be accepted as facts. This is so not only because in many patients there may exist a predetermined intent to deceive, but because we must always count upon the possibility that the patient is being influenced by sense deceptions, which efface the dividing line between imagination and reality and are of the greatest importance not only in relation to the actual development of the psy-

choses, but also in relation to the history the patient himself gives.

In a general way we may divide hallucinatory patients into those who speak of their sense deceptions and who when asked will give information in regard to them, and those who dissimulate any sense deceptions they may have. In both instances the patients believe their hallucinations to be actual occurrences; they do not realize that they themselves are a prey to sense deceptions. It is precisely this inability to differentiate between imagination and reality that constitutes the pathological character of those sense aberrations. Were these hallucinations recognized by the patient as pathological they could not constitute the basis for delusions. Certain patients, however, have learned that they will be derided and even scolded if they speak of the voices they have heard, things they have seen, etc. This is probably the chief reason why they either conceal their hallucinations or else show great reluctance in giving information concerning them.

In those who dissimulate their sense deceptions we are obliged to rely essentially upon the objective signs which have already been mentioned. In general it will not be difficult for an expert psychiatrist to determine the existence of sense deceptions, even when the patient endeavors to conceal them or when he cannot or will not talk.

In the majority of instances the patients voluntarily disclose their deceptions, or, when questioned, they at once admit having them. Occasionally the best means of obtaining an admission from a patient who seems to be suffering from hallucinations is to assert directly that he hears voices, sees figures, etc. Dissimulation is particularly frequent in paranoiacs, but even they, when asked directly, "What are the voices now saying?" or "What figures do you now see?" will usually at once give an artless reply. Strange to say, all hallucinants at once understand the meaning of the words "voices" or "figures." Consequently when a patient answers, "I hear no voices," this negative is useful; because if a patient has no hallucinations, he does not know just what is meant by "voices" and "figures" and may ask for an explanation, but he certainly will not respond promptly with "I hear no voices," "I see no figures."

Similarly the presence of delusions, ideas of grandeur and of

persecution will often be acknowledged without delay when the patient is directly accused of having them. As a matter of course, every examination of a patient suffering from mental disease presupposes that the examiner understands precisely what constitutes a sense deception, under what different forms it may exist and what may be its diagnostic value. Since the time of Esquirol sense deceptions have been artificially, yet practically, divided into illusions and hallucinations.

Illusions are actual perceptions, which, however, enter the patient's field of consciousness in a falsified form. Hallucinations are perceptions for which there is no external basis. Theoretically hallucinations are of purely central origin, there being no productive stimulus discoverable in any part of the sensory conducting tracts. In many instances, however, it is impossible, even by means of the most exact methods of examination, to determine whether some pathological process, acting for instance upon the middle ear, upon the mucous membrane of the nose, mouth and pharynx, or upon the retina, is not after all the actual cause of the sense deceptions. Illusions in themselves are not pathological and every person, particularly one who is endowed with a vivid imagination, may occasionally be subject to them. Hallucinations on the other hand are in all instances a sign of existing mental disorder. Any correction of an hallucination by means of an actual sensory perception is entirely out of the question. A person of sound mind can recognize his error, can correct his sense deception; but this does not hold true in the person of unsound mind. He lacks control of his sensory apparatus and, therefore, cannot be convinced of his error. Illusions may even be produced by those errors that are dependent upon inadequate and incomplete sense impressions. In persons of sound mind, however, the error does not persist for any length of time, for by means of greater concentration of attention or by means of more intensified fixation of the object in question, partly also through the aid of other senses, they will be able to control and rectify their judgment. Involuntarily we regard more closely any object that has produced a sense deception. Where the light is poor we endeavor to supplement the visual impression by our sense of touch. The latter again we often control by our sense of hearing, just as we control this by our sense of sight. If in the dark we believe we see

a wagon approaching, we listen for the sound the revolving wheels should make; if on the other hand we hear the sound of wheels, we carefully look around to see what is causing it. More persistent illusions are dependent upon an inadequate experience with the world about us (the child, for instance, believes the moon to be within reaching distance and stretches out its arms to touch it), upon lack of discrimination, upon preconceived opinions, and upon concentrated emotion, especially during intense expectancy, when we believe, see or hear that which we expect to see or hear.

The production of illusions is encouraged particularly by the clouding of consciousness that is present in alcoholic intoxication, in narcosis or in fever, but they may also occur where consciousness is completely unobscured.

Still another point merits attention. Every person has a tendency to supplement an imperfect sensory perception in his own peculiar way. It is this fact that is the cause of those extraordinary differences in the comprehension of one and the same occurrence so frequently encountered and so often manifested in the testimony given by different witnesses in court. Every physician must have observed and been astonished at the contradictions manifested by excited but particularly intelligent patients, when, at the end of a consultation, they are asked to repeat the substance of the explanation and advice given to them. In such instances we speak of illusions of memory. These, occurring as they do in perfectly healthy persons under the influence of emotion or distraction, are all the more likely to be present when fatigue, disease, etc., have affected the functions of the brain.

Illusions become pathological only when the patient is unable to free himself from the deceptions involved. Soon he makes no effort to overcome them and he proves refractory to all attempts on the part of others to correct them. Most curious instances of this nature are likely to be encountered. Many a mentally unsound person cannot be dissuaded from believing all noises to be the footfalls of his persecutors, flower beds to be graves in a cemetery, the movements that take place in his stomach after a meal to be manifestations of life in the animals whose flesh he has eaten.

While illusions, as we have explained, result from a miscon-

ception of actual sense perceptions, hallucinations as a rule are dependent upon the production of cortical excitation through which the memory pictures of a previous excitation caused by a real object is revived, but this time without the presence of any actual object. This is why recollection plays a far greater rôle in hallucinations than in illusions.

Esquirol characterizes hallucinations as concepts and pictures that have been reproduced by the memory, a process like that which takes place in a dream, in which, as we well know, the products of the imagination are believed to be real occurrences. The sensory organs themselves are entirely irrelevant in the production of hallucinated sense perceptions, for they do not transmit the hallucinatory processes any more than they inhibit them. Hallucinations occur in the brightest daylight as well as in the deepest darkness. Every psychiatrist has observed instances of hallucinations of sight in blind people or of hearing in deaf people. In such instances it is absolutely certain that the hallucinations cannot have been transmitted by the senses. Even when a patient has been given to understand that because of his blindness or deafness the figures he has seen or the voices he has heard could not have any real existence, he will persistently maintain that his statements are correct.

A few points that are of particular importance in the estimation of doubtful states of mental disorder and in the forensic determination of responsibility require more detailed consideration.

1. ILLUSIONS

By far the most common illusions are those of sight. They are more likely to occur in patients suffering from acute diseases in whom marked excitement is associated with a certain degree of obscured consciousness. Illusions of sight are almost always, therefore, a sign of disordered consciousness. They constitute the characteristic and often the only symptom of disordered mental activity in cases of fever delirium (typhoid, tuberculosis, etc.). In addition they are encountered in the excited states of epilepsy and alcoholism and they are of special importance in delirium tremens, in which they may with ease be produced experimentally at any time. If a patient in alco-

holic delirium be shown a smudge upon the wall and asked to tell what it is, he will in the majority of instances mistake it for bugs, spiders, mice, etc. The illusions of sight that are present in alcoholic delirium can be demonstrated most easily by showing the patient some simple picture and asking him to explain it. The interpretation given will be of the most ridiculous kind. At this point, however, I would recall the fact that there can be a question of pathological sense deception only after it has been shown that the organs of special sense themselves are not so affected organically as to give rise to an erroneous interpretation, and only when such erroneous interpretation of sensory perceptions can no longer be corrected.

A special kind of visual illusion is the mistaking or confounding of persons which is encountered as a permanent or transitory manifestation in nearly all psychoses. Patients in whom this symptom is present mistake their hospital associates for relatives or former acquaintances, while upon the other hand they often fail to recognize their relatives, but maintain that the latter are merely masquerading or disguised or have assumed the familiar facial expression for the purpose of deception. Let us emphasize the fact that in these cases there can be no question of those mistakes of recognition which occur in healthy individuals as a result of marked similarity in appearance; for the patients of whom we are speaking deceive themselves even where there cannot be the slightest question of any resemblance or of the person's identity. It is this self-deception that constitutes the manifestation of disease.

Maniacal patients, when at the height of their exaltation, often make mistakes in the recognition of persons, but they quickly correct these when their attentiveness has been stimulated. The same statement applies to patients in alcoholic delirium. In these cases the illusionary mistaking of persons is essentially the result of diminished comprehension and attentiveness. This confounding of persons, as well as most other illusions of sight in acute states of excitement or confusion, is a symptom of little prognostic significance. But where it is persistently present in patients who are collected and quiet, and where the same delusional mistakes are always associated with the same persons, it is usually of adverse significance and constitutes part of a paranoiac symptom complex.

Of great diagnostic and prognostic significance are illusions of hearing. Thus, for instance, the favorable prognosis of a simple state of depression may be completely altered by the supervention of illusions of hearing. A patient who interprets the hammering of steam in the radiators as alarming threats of his persecutors suffers from an illusion which is directly and characteristically related to his false beliefs. Where we encounter symptoms only of a melancholia or of a mental depression, such as restlessness, sleeplessness, sadness and self-reproaches on account of minor omissions—the patient otherwise being fully oriented and collected—we are always warranted in forming a good prognosis. If, however, the patient suddenly becomes suspicious, if he believes all conversations held in his presence to refer to himself and contain insinuations and accusations against his character, etc., we may be certain that we are dealing with an incipient paranoia, and that entirely isolated illusions that have arisen in one sensory field will recur with steadily augmenting frequency and will soon be followed by hallucinations of hearing and an ineffaceable fixed delusion. Then the primarily favorable diagnosis will have to be dropped and a grave one substituted, because isolated auditory hallucinations often occur as an initial symptom of paranoia. Auditory hallucinations that are not isolated but are combined with visual or other sense illusions occur in other forms of mental disease, as in alcoholic delirium and melancholia when at its height, in which the diagnosis can present no difficulty.

Illusions of the remaining senses can hardly be differentiated from hallucinations affecting these same senses, hence it will be best to consider these disturbances together. There can be no question that the distinction that may be more or less precisely made between illusions and hallucinations affecting the visual and auditory senses can be made to apply only with the greatest difficulty to corresponding disturbances of the senses of smell, taste and touch. To sum up the situation, it may be said that while the presence of an hallucination is unquestionably an evidence of mental disorder, the occurrence of an illusion does not necessarily warrant the assumption of the existence of a pathological mental state. A mentally healthy person who has had an illusion will always realize his mistake or permit himself to be corrected, but the mentally disordered person can

never be convinced of his error. Moreover, the illusions of healthy persons usually occur but singly and transitorily under conditions that vividly excite the imagination and the emotions, or when, as in half-sleep or states of exhaustion, sensory perceptions are incomplete. On the other hand, illusions in persons who are mentally disordered occur at any period of the day, even when such persons are not excited or are not in any other way psychically predisposed. Moreover, their illusions do not occur singly and transitorily, but in quantities, and constitute a permanent component of their being. The most important differentiating characteristic by far, however, is the fact that the illusions of mentally healthy persons, no matter how extraordinary they may be, never bear any relation to delusional notions, as they always do in those who are mentally diseased.

2. HALLUCINATIONS

Hallucinations of hearing are the most common of all sense deceptions. They may occur in almost all psychoses, and the patient usually characterizes them as "voices." They manifest themselves either in the form of so-called elementary sense deceptions like simple noises, buzzing, roaring, whistling, crackling or ringing, or else they occur as articulate words, entire sentences or complete connected conversations. Some patients hallucinate only upon one ear, but the majority upon both. Occasionally the hallucinations of the one ear are of an entirely different nature from those of the other. Magnan refers to a patient who heard disagreeable, scolding voices with the right ear, while with the left he heard only complimentary ones. At one time the voices may be low and whispering, at another loud and sonorous. Some patients hear two or three voices at once, while others hear an entire Babel of voices as though hundreds of people were talking simultaneously, with here and there a voice being raised above the others so single words can be understood. Some patients clearly differentiate the voices of men, women and children. Occasionally the voices heard are droningly monotonous, the same stereotyped words being repeated day after day for weeks. In other cases the tone of the voices is constantly changing and the context of the phrases is variable. A polylingual

patient will hallucinate in various languages. Patients localize the voices differently. They hear them as coming from the ceiling, from the cellar, from the stove, from the closet, or from out of doors. Some believe the voices to come from their own bodies, from the head or abdomen.

Most frequently the hallucinations of hearing are expressive of contempt or contain threats and accusations. Other voices convey important secret commands or divine missions, this occurring usually in patients in whom ideas of grandeur are either present or developing. Such patients converse with God, with the angels, with the Pope, with kings and superiors of all kinds. They hear they have been appointed to important missions, even to the rulership of the world, and their facial traits assume a correspondingly glorified expression. Other patients are tormented for weeks by the most distressing auditory hallucinations. From all sides they hear sarcastic, contemptuous, accusing voices. Their entire life is befouled by calumnies; they are accused of infamous acts and are summoned into court. Occasionally voices arise in their defense and speak well of them, but ultimately the catastrophe occurs and they are condemned. Under the influence of their hallucinations of sight and hearing, everything becomes dramatically vivid and realistic. Word succeeds word, sentence follows sentence. The patient becomes the inexorable victim of his hallucinations. These, of course, can originate only in the conceptual sphere of the patient. If, for instance, he knows nothing of the existence of a Pope, he cannot hear voices which bestow upon him the Papal chair. No matter how nonsensical the hallucinations may be, they can be made up only of things which previously have occupied the patient's thoughts. By means of false association of ideas that have already been present, however, they make the patient believe things to be real which actually are imaginary. Never does the patient receive new disclosures that go beyond his previous conceptual capacity. A noteworthy feature of all auditory hallucinations is the extraordinary sensuous distinctness and plasticity that enable them to exert such marked and often irresistible power over the patient, and to stand out above all the real voices that reach them through people, books or newspapers. A special form of auditory hallucinations is that in which the acoustic verbal images of the thought itself are projected out-

side in such a way that whatever the subject thinks he hears repeated in speech. This *écho des pensées* not only repeats the patients' thoughts, but announces their future actions. Similarly, while they are reading or writing, they hear the voices accurately repeat every word and sentence. This symptom of thought repetition is not very frequent. Patients so afflicted call it "stealing my thoughts" or "draining my thoughts." The practical diagnostic and prognostic value of this symptom is that it occurs almost exclusively in paranoid states with an unfavorable course.

Hallucinations of sight, which are not so frequent, and are often associated with auditory hallucinations, may also be divided into single and complex sense deceptions. Elementary visual hallucinations are made up of sparks, flames and fulgurations, fiery stars, colored wreaths and colored rings. In other cases the patients see menacing images and dangerous animals. Some see entire groups of people, or spectacles in which the various figures appear, disappear and replace one another. All of these things, of course, occur also in the dreams of those who are mentally well; but the patient who is awake believes his "dream"—that is, the products of his imagination—to be real.

Visual hallucinations may be indifferent, threatening or blissful in nature. Some patients portray the fantastic pictures with the greatest precision, yet are unable to recognize them as deceptions. They see themselves hunted and exhausted, surrounded by dancing skeletons, who, with swinging scythes, push them over abysses; or they witness the erection of a scaffold, by the side of which the hangman, surrounded by an expectant multitude, awaits his victims. Others depict visions of rapture; they see themselves in heaven, everything resplendent in perpetual light; they are received and welcomed by God and his angels, all of whom bow low at their coming. In some patients the visual hallucinations are sensuously less marked, representing pictures without well-defined form or plasticity; others, again, see everything as it is in nature. It must not be forgotten that the contents of these visions are entirely dependent upon the patient's conceptual sphere. An anti-religious person, for example, will never have visual hallucinations that show him the gates of heaven; nor will he who has never seen a snake ever see one in his hallucinations.

Of special diagnostic value are the visual hallucinations of epileptics, alcoholics, cocainists and persons suffering from the delirium of fever. Epileptics most frequently see fire, flames and sparks, but they also have visions of a religious fantastic nature. The physiognomic expression in such states of ecstasy is a dreamy, blissful, glorified one. Occasionally, however, they have visions of an alarming character; they see themselves surrounded by enemies who menace them with drawn knives; or they believe themselves to be followed by devils and threatening spooks with flaming red eyes. Alarming visions of this sort frequently provoke the epileptic to the commission of the most dangerous acts of violence. Another phenomenon encountered in epileptics is that they not infrequently have erroneous sense deceptions that cause them to see all objects abnormally large or abnormally small (Makropsia and Mikropsia).

In alcoholics the visual hallucinations of the delirious state outnumber all other sense deceptions and in many instances constitute a most important symptom of this psychosis. Wherever such visions are present to any extent the suspicion of an alcoholic psychosis may be aroused. No less characteristic of alcoholic delirium than the visions of constantly moving masses of spiders, bugs, mice and other animals is the occurrence of hallucinations in other sensory fields, which, through their associative conjunction, cause a complete misapprehension of the prevailing situation, so that, for instance, the patient believes himself to be at home following his usual occupation. As a result it is sometimes possible, from the manner in which the patient adapts himself to the imaginary situation, to recognize his actual vocation or station in life. Cocainists also suffer from visions of animals, just like those of alcoholics. A more or less common characteristic of cocainism is a marked itching of the skin, and this the patient delusionally attributes to the action of vermin. Upon this delusion is superimposed in turn the seeing of animals. The visual hallucinations that occur in febrile delirium are usually transitory, coming at the time of highest temperature, and are in no way characteristic.

Hallucinations of taste and smell are far more infrequent than those of sight and hearing, those of smell being somewhat more frequent than those of taste. In the majority of instances they are disagreeable and annoying in character. As a rule they

occur only in combination with hallucinations of sight or hearing and hence are of but little diagnostic value. Nevertheless the examining physician should be on his guard when patients maintain that their food has a peculiar taste or that the air about them has an offensive odor.

Finally, in regard to hallucinations of general sensibility, we must differentiate between general tactile hallucinations and deceptions implicating the sensibility of the internal organs of the body. A patient who has hallucinations of general sensation will complain of his skin being bitterly cold or of a sensation of itching, tickling, biting, sticking, prickling or crawling. He feels that he is being caught up and shaken to and fro; that electric currents are being passed suddenly through his head; or again that he is abruptly embraced and petted, or that his skin is being traversed by painful electric or magnetic currents. The last mentioned hallucination is typical of paranoia.

In this connection attention should be called to the fact that sensations produced by purely psychic means, without the intervention of specific stimuli, can have their origin only in the conceptual sphere of the patient. The patient who knows nothing of electricity will not imagine that he is being maltreated with electric currents. A century ago, when few people knew anything about electricity, there were undoubtedly quite as many paranoiacs as there are to-day, but the symptom to which we have just referred could not have been typical of paranoia at that time. The patient had other hallucinations of general sensation.

Deceptions of sensibility of the internal organs of the body cause a patient to believe that snakes, frogs and other animals are crawling about his interior; or the intestines are rotting or protruding from the abdomen; or the spinal cord is destroyed or is thicker upon one side than upon the other; or the bones are growing through the flesh or wasting away; or the blood is oozing from the fingers and toes, one leg is shorter than the other, the arms have turned into wood, the head into stone, and the entire body is nothing more than a hollow vessel whose contents have ebbed away.

Special mention should be made of the sense deceptions of a sexual nature. Patients having hallucinations of this kind complain of their semen being drawn or driven from them. Women

believe they have been violated or believe themselves to be pregnant. How notorious are the calumnies of hysterical women, who, as a result of abnormal body sensations of a sexual kind, have accused physicians of assaulting them when they were under the influence of an anæsthetic.

The value of hallucinations of body sensation, from a differential diagnostic point of view, lies in the fact that they occur in a large number of psychoses. Prognostically they are of most serious import. Most frequently they occur in paranoid processes of disease, in the terminal states of melancholia and in the various forms of hypochondriasis. In general it may be said that all hallucinations of body sensation attributed by the patient to external inimical influences are paranoiac in character and, therefore, are prognostically decidedly bad; while those whose origin cannot be attributed to persecutory delusions are essentially of a hypochondriacal character and must, therefore, be regarded as only relatively unfavorable. The diagnosis will also be aided by the knowledge that hallucinations of body sensation usually occur in conjunction with other sense deceptions. Thus, in paranoia, they are almost always accompanied by hallucinations of hearing, smell and taste. Hystero-hypochondriasis is perhaps the only form of psychosis in which hallucinations of body sensation are encountered as isolated occurrences. Finally let us mention the fact that some patients feel themselves suddenly lifted and thrown into the air at a time when they are in fact lying perfectly quiet in bed. Such hallucinations of movement must be carefully distinguished from similar feelings that occur in the dreams of healthy individuals.

We have now considered sense deceptions, particularly hallucinations, in the detail justified by the scope of the present work. Inasmuch as sense deceptions belong to the symptoms most frequently encountered in mental disease, and inasmuch as every hallucinating person must be considered mentally disordered even if such disorder be only transitory, an accurate knowledge of the manner in which sense deceptions arise and manifest themselves is of the greatest importance for every one who may be called upon to pass judgment upon dubious mental states. It is not by any means unusual even for physicians to overlook completely the existence of hallucinations, particularly when patients know how to conceal them or when the physician's atten-

tion is not accidentally directed toward them. Such disregard is likely to result in diagnostic errors which may be of momentous import. Not only is the presence of hallucinations significant for the diagnosis of a psychosis, and, therefore, for the determination of a patient's freedom of will, but the nature and the contents of the hallucinations will, in the majority of instances, enable us also to draw conclusions regarding the precise form the psychosis has taken. This is so particularly when the nature and the contents of the sense deceptions are considered in their relationship to other psycho-pathological symptoms. We should, therefore, always endeavor to determine whether sense deceptions exist, what senses are implicated by them and what the contents of these deceptions may be.

For purposes of differential diagnosis, we have still to consider the erroneous notions that stand in close mutational relation to sense deceptions.

3. DELUSIONS

Almost every psychosis has certain definite characteristic delusions. Consequently the value of such delusions for differential diagnosis is extraordinarily great, and he who has learned to appreciate the specific elements in a delusion will never be in doubt regarding its diagnostic significance. Here, as everywhere, in psychiatry, one must not rest content with recognition of the fact that a delusion exists. The delusion must be analyzed as to its form and content, and as to the relation these bear to other psycho-pathological manifestations, more particularly to sense deceptions. Speaking in a general way, delusions are those notions of mentally disordered persons that are contrary to actual fact, yet, not being open to correction, lead the thought, judgment and conduct of the patients into false paths.

Four kinds of delusions may be differentiated, as follows: 1—Paranoiac delusions; 2—Grandiose delusions; 3—Depressive or melancholic delusions; 4—Hypochondriacal delusions.

Under the term "paranoiac delusions" we include all those erroneous notions whose contents are in any way derogatory to the person affected by them. The chief forms are notions of disparagement, of imputation and of persecution.

The mildest form is represented by ideas of disparagement,

Individuals thus afflicted consider themselves neglected at all times, they believe every one else receives more attention than they and that they are generally badly treated and misunderstood. Such notions of depreciation are encountered most often in the feebleminded and idiotic, in epileptics, and particularly in that large class of hysterics whose egotism is so marked that they become envious of every attention shown to any one but themselves. Notions of disparagement are diagnostic of paranoia only when it can be shown that they have not previously been present.

Of decided value diagnostically is the notion of imputation. Patients having ideas of this type attribute conversations, gestures, newspaper notices, etc., to themselves. Typical of this form of delusion are the statements so often made by patients that all conversations held in their presence contain references to their previous life, that every one about them is laughing at them, trying to anger and annoy them, or endeavoring to insult and deride them. In every occurrence, even the most insignificant, these patients recognize some reference to themselves. Any person casually sneezing, coughing, laughing or making a remark of any kind in their presence does so with evil intent; they believe themselves to be under constant surveillance, and the conduct of the people about them, who seem to them to be giving surreptitious signs to one another, leads them to conclude that they are the object of some evil plan. Soon these misconceptions give way to visual and auditory hallucinations. Then the transformation of the notion of imputation into a delusion of persecution has been effected.

Persecutory delusions are encountered in many psychoses. They constitute the cardinal symptom of paranoia. This diagnosis, on account of the patient's great ability to dissimulate, may in certain instances be one of considerable difficulty. Frequently the most dangerous delusions are concealed behind a mask of complete self-possession and orientation. Then usually the ideas of persecution have become transformed into a connected system which, because of its logical concentration, indicates the presence of decided intellectual force.

In the paranoid form of dementia præcox, however, ideas of persecution often very early bear the stamp of feebleminded-ness. The patient believes his brain is being pumped out, his

face being disfigured, his intestines being removed, etc. A special character, that of infringement of personal rights, is borne by the persecutory ideas of the querulants or litigants who are constantly carrying on law suits, who believe judges, lawyers and witnesses have been bribed or are banded against them, and who neither by argument nor experience can be freed from the idea that they cannot obtain justice. Ideas of persecution also constitute a characteristic symptom of acute alcoholic insanity, of presenile deterioration and of senile dementia itself. Yet, in these instances, the persecutory ideas never become systematized, and they are either persistently monotonous or constantly changing.

In dementia paralytica (general paresis), ideas of persecution may frequently be observed. Like all ideas of paretics, their paranoid delusions also bear an impress that is feebleminded, absurd, illogical and impossible. Thus a paretic with delusions of persecution may believe his food to be poisoned and refuse to eat even when other persons eat from the same dish. Very early in the course of general paresis, when manifest somatic symptoms are sometimes still missing and laboratory tests fail to clear up the diagnosis, it is usually the paretic's lack of energy and self-control, his constant emotional changeability and especially the sense of elation (euphoria) so characteristic of his condition, that will enable us to decide we are dealing with a dementia paralytica and not with a paranoia.

In epileptic states, too, paranoid delusions of persecution are of rather frequent occurrence. They set in suddenly in the form of acute delusions in which the patients have innumerable visions of the most lurid kind, believe themselves to be surrounded by enemies and are in a state of the utmost excitement. Usually such acute persecutory delusions occur just before or directly after an epileptic convulsion. They are always transient, but while they are present the patients are most dangerous, frequently committing fearful deeds of violence under the spell. Not infrequently, after the excitement has abated, a state of stupor or, less often, one of ecstasy sets in. The presence of other concomitant epileptic symptoms will confirm the diagnosis. Single persecutory ideas may be permanently present in some epileptics. Also in the periodic and circular psychoses, transitory persecutory ideas may be encountered, but only after the

disease has made considerable advance. In the intervallary free periods and often during the attacks themselves, the patients very well know they have been troubled by delusions. In hysterics, too, ideas of persecution are sometimes transitorily present, but are to be looked upon as a result of suggestions implanted by other persons. Fortunately the delusions which hysterics acquire in consequence of their suggestibility are not tenacious; they exert but little influence upon the patient's conduct and, as a rule, soon disappear if their existence be skilfully ignored. Very different are those infrequently occurring twilight states of hysteria that are accompanied by appalling sense deceptions with actual delusions of persecution (usually of an erotic nature).

While, in the instances we have thus far noted, the patients endeavor to protect themselves against their supposed enemies, sufferers from melancholia maintain a perfectly passive attitude toward their persecutory delusions. Despondently they talk of the persecutions to which they are subject, but they bear them with equanimity as a well-deserved punishment for sins that they accuse themselves of having committed. A systematization of delusions never occurs in melancholia. The earlier these delusions arise the more persistent they are, and the more positively they are maintained the more unfavorable will be the prognosis.

Not quite so frequent in occurrence as the paranoid delusions are those of an expansive or grandiose character. In many instances delusions of grandeur and delusions of disparagement are associated in one and the same psychosis, so that the two kinds will alternate in occupying the foreground of the picture. In the later stages of paranoia, delusions of grandeur are of frequent occurrence. Those encountered in the paranoid form of dementia præcox differ materially from those met with in classic paranoia. They occur earlier in the course of the disease, often during the first days or weeks, sometimes being the result of hallucinations; besides they are extraordinarily changeable and replete with ornate adventuresome grandiose ideas of the most ridiculous nature. Frequently also—just as in paresis—suggestive questioning will suffice to call forth new and changing fantastic delusions of grandeur. Factors of decisive value in the differential diagnosis of dementia præcox are the youthful-

ness of the patient, the evident weakmindedness, the monotonous unemotional manner with which the grandiose beliefs are unfolded and their very slight influence upon the patient's bearing and conduct.

The delusions of grandeur present in litigious or querulant paranoiacs are as a rule not so vivid as in the other forms of this disease. Almost always, however, there is present an extraordinary augmentation of conceit, an exaggerated belief in their own importance, that clearly manifests itself in the speech and writings of these judicial disputants. Almost all querulants attach undue significance to the law suits that they institute and believe the court's most important duty rests in attention to their personal affairs. In most of their suits for imaginary damages, fabulous sums are demanded in compensation. In acute alcoholic insanity delusions of persecution and transitory fantastic delusions of grandeur may arise side by side. The acute stage having run its course, the delusions which are dependent for their existence upon delirium and hallucinations no longer appear; on the other hand the delusions that accompany the chronic alcoholic psychoses, such as notions of poisoning and of marital infidelity, are generally of a more enduring character, and disappear only with a cure of the alcoholism itself.

In senile dementia feebleminded ideas of grandeur occasionally arise, which, in connection with other symptoms of dementia and of senility (weakness of memory, intellectual defect, etc.), make the diagnosis easy. In exceptional cases—for instance, where pupilary rigidity exists—the differential diagnosis from a brain syphilis in its late stages and from paresis may be difficult, and where the complement fixation test gives no positive information, may be entirely impossible. In the classic form of paresis, ideas of grandeur constitute a symptom that is directly characteristic. Whenever delusions of grandeur are present in any psychosis that occurs in individuals of middle age, paresis should be suspected. The grandiose ideas of paretics are profuse, they change constantly, contradict one another and give evidence of a more or less marked degree of enfeebled judgment. On one and the same day a paretic may be the ruler of the world, a multi-millionaire, the Pope or God. He possesses gigantic powers, can lift a weight of one thousand tons in one hand, has accomplished the most heroic deeds, accumulated untold

riches, given life to thousands of miraculous offspring, etc. By means of suggestive questioning, numerous new ideas of grandeur of the most ridiculous kind may in most instances be aroused. The diagnosis of a classic case of paresis can cause no difficulty. The weakness of judgment, the defective intelligence, the character of the delusions and the physical symptoms will all be determinative. In exceptional cases of delirium tremens, however, delusions of grandeur may be so profuse that the case will seem to be one of paresis, and so long as the delusions exist, the diagnosis may remain uncertain. If the grandiose ideas persist after the delirium has run its course, the diagnosis of paresis will no longer be in doubt. On the other hand, when the delirium and the grandiose ideas disappear simultaneously and no marked physical symptoms of paresis (pupilary rigidity, speech defect, etc.) exist, we may be sure we are dealing with an unusual case of alcoholic insanity.

The grandiose notions of acute mania or of the manic stage of a manic depressive psychosis usually remain within the bounds of possibility, being distinguished by their boastfulness and overbearing character as well as by their great fugaciousness. But occasionally we encounter grandiose ideas of the most absurd kind, directly remindful of those so characteristic of paresis. An energetic appeal will often cause the maniacal patient to correct his ideas of grandeur, and this alone will demonstrate that paresis does not exist. In other cases the absence of all paretic symptoms, as well as the absence of the signs of true mania (exaltation, flight of ideas, etc.), will determine the diagnosis.

The expansive ideas that occur in melancholia occupy a most peculiar position. Melancholia in itself furnishes a thoroughly arid soil for the development of grandiose delusions. When they do occur, they merely serve to place the sinfulness of the patient in a more intense light, and thus represent a contrast which constitutes a basis for melancholic delusions. A melancholiac may believe that he will live forever, that he cannot die, but he will also believe that his imperishability will continue only in order that he may suffer unending torture as a punishment for his own failings or wickedness. Such patients believe themselves to be the cause of all the evil that exists in the world; all their talents and all their good qualities serve only for the accomplishment of evil. Very exceptionally, in the later stages

of melancholia, we encounter actual delusions of grandeur, which fantastically exalt the patients above those surrounding them.

We have now reached the third category of delusions, the depressive or melancholic ones. These constitute an antithesis to the delusions of expansive nature and occur not only in actual melancholia, but in all states of depression. As delusions of sinfulness they represent a symptom that is constant in true melancholia. The patients review their entire lives and in every past occurrence they discover faults which they attribute to weakness of character or wilful misdeeds. The most insignificant oversight or neglect which they recall is magnified into a heinous crime. Anything they have ever done or omitted to do becomes a source of self-reproach and self-accusation. They believe they have brought misfortune upon themselves and their families, or that they have thrown other people into want and misery. They regard themselves as unworthy and vile, the greatest sinners that have ever existed. While most people tend to minimize and condone their own faults, the true melancholiac is dominated by a peculiar compulsion that causes him to exaggerate his faults beyond measure and even to discover failings where none exist. Frequently the delusion of sinfulness is associated with one of impoverishment. The patients complain that they and their families are completely in want, have no roof over their heads, that their children must starve, beg for food, etc. Less frequently the patients are dominated by nihilistic delusions. Such melancholiacs believe the entire world has been submerged, everything has been destroyed, every one has been killed, everything about them is merely a shadow or shell; they themselves are the only living beings upon earth and they have been rendered immortal in order that they may do unending penance for the sins they have committed. Occasionally the depressive notions manifest themselves under the guise of a delusion of transformation; then the patients believe themselves transformed into wolves, dogs or other animals; they hop, crawl and jump about upon all fours, bark, bite and in every way try to imitate the particular animal. In still other instances the notion of transformation embraces not themselves, but their surroundings. The entire extraneous world seems transformed in an appalling and horrible manner. The people

about them are but contrivances or masks that move about artificially. The entire world is a morgue, trees and hills, sun and moon, wind and weather, all have been given terrifying aspects in order to frighten the patient.

Although expansive ideas of grandeur accord more fully with paresis, and depressive ideas of depreciation more thoroughly with melancholia, it is not unusual for melancholic delusions to occur in the commencement of a paresis, just as in the later stages of melancholia we may encounter actual ideas of grandeur. The depressive delusions of paretics, like all other delusions, are markedly feebleminded and uncritical. This becomes evident when we note the ease with which ideas that are emphatically contradictory to their delusions may be implanted in such patients by means of suggestion, while only exceptionally can the systematized delusions of paranoiacs be so influenced. In the commencement of a paresis delusions of unworthiness and of sinfulness arise just as they do in melancholia. This fact makes a differential diagnosis of special importance, and in certain cases considerable difficulty may be encountered. Occasionally no definite diagnosis is possible until the numerous irritative symptoms that usually accompany the early stages of paresis have become more pronounced. As the disease progresses, the depressive delusions recede or combine with other delusions. The delusion of sinfulness, moreover, is a very frequent symptom in the depressive phases of manic depressive psychoses, of hysteria and of epilepsy. In hysterics, the depressive ideas are mostly vague, monotonous and sparse, or the self-accusations are markedly exaggerated, romantic, and what is especially significant of hysteria, calculated to make the patient interesting. In epileptics the ideas of sinfulness are mostly of a religious nature.

The depressive ideas arising in the first stages of paranoia are frequently confounded with those of melancholia, but when they are more carefully analyzed certain essential differences will be disclosed. The melancholiac mentally reviews his entire life in order to elicit more and still more evidences of his fault or guilt. The paranoiac, on the other hand, dissects and analyzes his past life for the purpose merely of justifying himself—in order to show he is innocent and a victim of inimical persons. Depressive delusions bearing the guise of typical delusions of sinful-

ness are frequently encountered in the beginning of all forms of dementia præcox. As a result the diagnosis of melancholia is generally made, although in this case an early and correct diagnosis would be of particular importance. Therefore, when confronted by a youthful individual having sorrowful moods, ideas of sinfulness and other depressive delusions, one must always bear in mind the possibility of the development of some process of mental enfeeblement (dementia præcox), and should only assume the existence of a simple melancholia when the latter diagnosis is in accord with other existing symptoms and when, more particularly, no defect of memory or of intelligence exists.

A depressive state with self-accusatory ideas is also encountered in the majority of cases of senile dementia. Here, however, these notions are usually so completely interwoven with other delusions and so clearly combined with other symptoms of beginning senile deterioration that the diagnosis cannot long remain in doubt. Sometimes the differential diagnosis between a senile dementia and a melancholia can be determined only after the lapse of considerable time.

Finally, as regards hypochondriacal delusions, I would particularly emphasize the fact there exists no "hypochondria" of the sort so commonly spoken of by the laity. The majority of hypochondriacs must be considered as belonging to a class affected by what is best designated as hystero-hypochondriasis. This occurs most frequently around or after middle age—in women at the time of the menopause—when in other persons of a different temperament a melancholia would develop. Such patients concern themselves solely about their own bodies and their imaginary diseases. They are always in a state of apprehension, now fearing cancer, now locomotor ataxia and now paresis. Frequently certain objective signs of the most insignificant nature are the cause of fresh hypochondriacal fears, and these are likely to receive new support through the reading of popular medical writings. The prognosis of this hystero-hypochondriasis remains good until hypochondriacal delusions and abnormal sensations are permanently present. The more pronounced the hysterical traits of the disease, the better the prognosis. The hypochondriacal delusions of paranoia differ from those of hystero-hypochondriasis by the absence of any

discoverable objective cause. Moreover the paranoiac attributes all his hypochondriacal complaints to the activities of his enemies; he charges they are tearing out his spinal cord, laying bare his brain, depriving him of his semen, paralyzing his limbs, taking out his intestines and replacing them by rubber tubes, etc. The hypochondriac, on the other hand, attributes his troubles to diseases which he thinks he actually has. The things the paranoiac believes are impossibilities. What the hypochondriac believes is perfectly possible, only he is wrong in believing it.

Hypochondriacal delusions are very frequent in melancholia. In the cases having a favorable prognosis, they are of but fleeting duration and remain within moderate bounds; the stomach is closed up, nothing can be digested, the bowels no longer move, the nervous system is exhausted, etc. The more nonsensical the hypochondriacal delusions of the melancholiac become and the more intense they are, the more unfavorable will be the prognosis.

The statement already made of the other delusions of paretics applies also to their frequently hypochondriacal complaints. These are childish, senseless and often immeasurably fantastic. They are very changeable and usually combine with other paretic delusions of a paranoid or expansive nature. A patient thus afflicted will maintain that everything within him has rotted away, that he no longer has a mouth, heart, or intestines, that his head is of stone, his bowels filled with gold, his brain but a grain of dust, etc. Not infrequently the delusions are micromanic, so the patient believes his body has shrunk, so he looks like a dwarf or a little child, that his legs are so small they cannot support the body, or even that the body has become so light that it will be blown away by the first gust of wind.

Hypochondriacal delusions, generally bearing a feebleminded impress, are of frequent occurrence in senile dementia. Those occurring in dementia præcox are usually absurd in the highest degree. The patient may believe his nose to be obstructed by a diamond, his lungs to be shriveled up, his blood congealed, his brain liquefied, etc.

In chronic alcoholism, hypochondriacal delusions of the most varied kind occur as a result of the abnormal sensation produced by the different organic lesions to which drinkers are sub-

ject (chronic catarrh of the stomach and intestines, diseases of the liver, etc.). These delusions may become permanently established. On the other hand, the hypochondriacal ideas of epileptics are usually variable and fugaceous; not infrequently they constitute the first signs of a beginning twilight or excited state.

4. THE MEMORY

Memory, intelligence and judgment must still be examined and the results utilized for diagnostic purposes. Disorders of memory are of frequent occurrence in many psychoses, and often they constitute symptoms of differential diagnostic value. From the viewpoint of practical diagnosis we must differentiate two qualities of memory: the power of storing a large stock of concepts in the brain and the power of constantly adding new ideas to the old memory store. The memory store, which often reaches back into earliest childhood, furnishes a firmly fixed supply of memory material. This memory for the distant past paleomnemnesis) is coupled with the memory for the recent past (neomnemnesis). By the latter is meant the power of constantly adding new ideas to the old memory store. These two memory components may be differently developed even in a normal individual. The memory for recent events may be good, while that for far distant impressions is bad; or there may be a marked degree of forgetfulness for the happenings of the recent past, while memory for the occurrences of childhood shows no gaps. The latter condition usually obtains as a physiological manifestation in old age. Under pathological conditions, defects of memory of course are of a more pronounced kind. From the point of view of differential diagnosis, the fact should not be overlooked that in some psychoses memory becomes affected equally in both directions, while in others there exists an enfeebled memory or loss of recollection only for certain portions of the past. In the insane, therefore, the two qualities of memory must be tested separately and it must be borne in mind that both qualities may be restricted to the same degree, or else one quality alone may have suffered a loss, while the other has remained intact.

Memory for the more distant past is tested best by first obtaining an anamnesis from the patient himself and by requiring

him to make precise statements of the time at which the various occurrences took place. If this be done, marked disturbance of memory will often be elicited. Uncertainty in statements, errors and contradictions will easily attract our notice. The anamnestic questions should cover the patient's entire previous life; he should be asked when and where he was born, when, where and how long he attended school, what trade he learned, whether he is married, whether he has children and how old they are, what important occurrences have taken place during his life, etc. The test should be extended to determine how much of the knowledge acquired in school has become permanently fixed in the memory. In this connection, of course, careful consideration must be given the patient's cultural development. If his educational opportunity has been solely that of a primary school, he should be asked only the most elementary questions in history, geography, arithmetic, etc. The college graduate, however, must be subjected to a test in higher mathematics, classics and the natural sciences. It need hardly be stated that the patient should not be permitted to feel he is being examined. The test should be conducted in the form of an ordinary conversation, in the course of which the physician will always hit upon certain topics that prove to be of special interest to the patient and these will furnish a point of departure for further questions.

Defects of memory are very important for the diagnosis of paresis and senile dementia. Every psychosis of middle life that reveals the existence of disorders of memory will primarily arouse suspicion of an existing paresis. As memory disturbances of mild degree constitute an early symptom of this disease, careful and frequent memory tests are imperative in all suspected cases. The memory disturbances in the beginning of the disease are only isolated ones. Here and there an image has disappeared and has left a break in the broad perceptual circle. Gradually these breaks become more and more extended until the entire memory field is affected. When such patients are asked to recount incidents of their past life, their statements will be incoherent and contradictory. The recollection of important occurrences is uncertain; they describe certain happenings first in one way and then in another. They are unable to recollect the simplest dates, they forget their own birth years, the birthdays of their nearest relatives and even happenings of

greatest significance in their own careers. In consequence of numerous and progressive memory defects, they also lose their orientation for the past and are no longer able to arrange the happenings of their lives in an orderly sequence—in other words, the chronologic orientation regarding their own lives is lost. A patient of this type is likely to maintain that things which occurred a decade ago have taken place within the last few minutes, or that he has been in the asylum only a week, although actually there for years.

A test of the paretic's school knowledge very often will reveal numerous defects early in the course of the disease. He will forget the simplest facts in history and geography. Some paretics retain a certain ability for calculation and for arithmetical problems for a considerable time, but sooner or later defects will crop out. Each patient should repeatedly be asked to solve entire series of arithmetical problems of the most varied kind until a conclusive diagnosis has been reached. Tests in subtraction will be found most suitable for disclosing any loss of arithmetical ability, because experience has shown such problems cause these patients most difficulty.

At all events a comprehensive memory test must be carried out in all mental disorders. Many persons have a particularly good memory for numbers, tones, names, etc. These special portions of the memory store seem able to withstand the paretic ravages much longer than the rest of the memory contents and, therefore, a superficial test would fail to reveal the existence of any material defect. Consequently the memory should be put to an examination as broad and thorough as possible. Whenever a middle-aged person having disorders of memory also manifests psychic disturbances, such as depression, moodiness, nervousness, irritability and sleeplessness, the possibility of a paresis should be seriously entertained. If these symptoms are accompanied by tremor, speech disturbances, inequality in the size of the pupils or even tabic symptoms, the diagnosis of paresis may be considered certain. In order, however, to arrive at an early diagnosis of paresis it is essential primarily to recognize the slight memory defects that mark the very beginning of this disease.

In senile dementia, defects of memory for distant happenings are encountered later in the course of the disease. Hence,

an anamnesis given by the patient at the beginning of the psychosis often will show a complete power of recollection for things long past, while a test of the knowledge acquired later in school, including that of arithmetic, will usually reveal memory defects.

Testing the memory for recent events is usually accomplished by interrogating the patient minutely concerning the occurrences and experiences of the last few hours, days or weeks. The results obtained may be checked up experimentally by asking the patient to remember a given sentence, number or unusual word, and then after a lapse of time ascertaining whether he has been able to retain it in mind or not. Or the patient may be shown a picture with instructions to observe it carefully and to describe it; soon afterward he is asked to tell what details of the picture he still remembers. Thus we will be able to judge whether and to what extent disorders of memory for recent events are present.

Such disorders are characteristic of senile dementia. As we have already stated, in old people suffering from dementia the power of recollection for events long past usually remains unaffected for a considerable period of time. We well know how vividly and strikingly the aged can recount happenings of their early lives, but this faculty is usually counterbalanced by a manifest disturbance in their power of cognition, in their ability to receive new impressions. Patients with memory defects for recent events permanently lose their orientation for time. They can no longer tell correctly the day of the week, the date, nor the year; they forget things a few minutes after they are said or done; they recount the same stories over and over again without knowing they are repeating them; they fail to recognize persons immediately after being introduced to them. A carefully instituted experimental test will reveal the existing deficiency still more clearly. As it progresses senile dementia is always accompanied by a gradual destruction of memory for the distant past as well. Loss of memory for recent events as well as for those long past is one of the concomitants of the retrogressive process to which all persons are subject with advancing age. In a given instance, in fact, it may be questionable whether the loss of memory is normal or pathological. But in young persons or persons of middle age it is distinctly patho-

logical to show defects of memory for recent events. Instances of this sort are found in pre-senile dementia, and still more so in dementia præcox. In a well-developed picture of dementia præcox we always note disorder of memory for recent events because the patient, becoming dull and indifferent, no longer receives new impressions. For the diagnosis of this disease, however, the disorders of memory are of only secondary importance, because they occur after dementia has set in, and by that time the diagnosis should have been made from other symptoms.

But this same disorder of memory for recent events is a distinguishing symptom of polyneuritic (Korsakoff's) psychosis, a symptom so prominent that it cannot possibly be overlooked. The patients immediately forget all they hear or see and they have no cognizance of time or place even when the facts have been plainly put before them. They see and hear, their senses are receptive to all impressions, but no new experience is gained, no new concept acquired. Awake, they dream and pass their lives as in a trance. To the examiner conversant with the picture of this disease the accentuated cases can present no diagnostic difficulties. From the anamnesis as well as from the objective symptoms of alcoholic polyneuritis, it will at once become apparent that the inability to retain impressions is dependent upon a state of chronic alcoholic delirium. Besides, in acute alcoholic delirium, the presence of disturbances of memory for recent events can always be demonstrated, while the memory for events antedating the delirium remains intact. The cumulative effect of repeated alcoholic excesses and repeated attacks of delirium must naturally be a constantly augmenting disturbance in the power of recollection. It is to the marked restriction of memory for recent occurrences that we must ascribe the disorientation so characteristic of delirium tremens, Korsakoff's psychosis and senile dementia.

Finally, in the diagnosis of paresis, a test of the memory for recent events is of supreme importance. In contrast to senile dementia, in which the memory easily retains the events of the distant past while unable to receive new impressions, paresis presents memory disturbances covering the patient's entire life. In many instances, however, the disorder of memory for recent events occupies the foreground while deficiencies in the rest of

the memory-store are unimportant. Hence, we have another very important symptom to aid us in arriving at a definite diagnosis.

Let us next consider those disorders of the faculty of recollection designated as "amnesia." This term is applied to a memory defect that covers a definite, often sharply circumscribed period of time, while the rest of the memory contents remains undisturbed. Amnesia, being one of the best criteria of unconsciousness, is of great forensic significance. Persons who have committed criminal acts frequently claim to have no knowledge of what they have done. Consequently it devolves upon the expert to demonstrate to what extent their claim of amnesis is based upon truth.

Amnesia is a fairly frequent symptom. In concussion of the brain as a result of a fall or blow, in suicidal attempts by means of hanging or drowning, after poisoning by alcohol, carbonic oxide, ether, chloroform, etc., as well as after severe emotional shock, there often sets in a defect of memory, a gap that embraces the particular happening and the time of its occurrence. In some instances amnesia lasts for hours, days, weeks or even months, eliminating the victim's knowledge of everything that occurs in the interim. This interesting and puzzling symptom is designated as retrograde or retroactive amnesia.

Simple amnesia is one of the classic symptoms of epilepsy. Its occurrence in this disease is so frequent that any case of simple amnesia must arouse a suspicion of epilepsy. In every typical epileptic seizure, complete amnesia for the time of the attack, and, therefore, for the spell itself, is encountered. In some cases we may observe a retrograde amnesia, usually covering a few hours of the time preceding the attack. Furthermore, total or partial amnesia is present in all the epileptic attacks that manifest themselves as "petit mal," "absences" and simple transitory dizziness. Finally, amnesia is also a typical symptom of the epileptic twilight states and epileptic conditions of excitement.

The extraordinarily important relations that epilepsy bears to criminal jurisprudence are well known. Many crimes are committed by epileptics when in a state of confusion or excitement. The old teaching that complete amnesis must exist in every epileptic when the attack and the state of excitement have

passed away has long been materially modified. In epilepsy, in fact, all possible grades and forms of amnesia may be noted. In some patients complete loss of recollection sets in after an attack and no measures will succeed in bridging the gap; in others, single disconnected memory pictures will emerge gradually from the amnesic gloom, but even some of these will again disappear; in still other patients there arises merely a partial amnesia which occasionally can be diminished by refreshing the memory and stimulating the association of ideas.

What we most often observe after an epileptic seizure is that form of amnesia in which recollection for the entire period of the psychosis has been preserved in a general way, but is clouded and disconnected. The patient's estimate of the time of duration of the psychosis is usually most faulty and numerous memory gaps are demonstrable. Hence, when a person accused of crime maintains he knows nothing of the acts attributed to him, his statement must be considered credible if it can be shown he has suffered from epileptic disturbances of consciousness. Many convulsive seizures naturally will pass unobserved if the patient happens to be alone during the attack. Other symptoms then must be sought in order that the diagnosis of epilepsy may be made with any degree of certainty. Sometimes the loss or clouding of consciousness precedes the attack, sometimes it follows and sometimes it occurs independently of any convulsive spell. From a consideration of the attendant circumstances the psychiatric expert must determine whether at the time of a criminal act, of which the accused claims to know nothing, the latter was in a state of unconsciousness or pathological perturbation of consciousness as a result of which his freedom of determination was annulled. Aside from the fact that epilepsy, skull injuries, etc., manifest themselves by other symptoms in addition to those directly associated with the disturbance of consciousness and loss of memory, any attempt at simulation may easily be recognized by the contradictions in the simulant's statements. Under persistent questioning he will reply now in one way and now in another; and very probably he will mention some one thing showing he well observed what took place around him at the critical time. If all recollection of the occurrence has been obliterated contradictions are not so likely as in the case of the simulant.

Amnesia of varying intensity also occurs after hysterical attacks, although much less frequently than in epilepsy. A consideration of the associated symptoms will easily enable us to determine whether we are dealing with an epileptic or with an hysterical amnesia. Amnesia of every degree may be encountered after alcoholic delirium, particularly when associated with convulsions. In some cases the recollection of certain imaginary happenings believed to have taken place during the delirium (dreamy states) is extraordinarily vivid. A retrograde amnesia is never observed in isolated instances of delirium tremens. Only after the attacks of delirium follow each other repeatedly and often do we meet with a retroactive amnesia. This may cover a period of years and may be of such intensity as to efface the entire period completely from the patient's memory. There often follows an exuberant activity of the imagination known as "confabulation," which takes the place of the memory contents that have been lost. In this connection it may not be amiss to mention the artificial production of amnesia, for it is possible by means of suggestion, without hypnotism, to eliminate a recollection of individual happenings. In fact, it has been claimed that a complete loss of memory for entire periods of life may thus be effected. That this question may be of forensic interest will be shown in the chapter of this book that deals with hypnosis. Alcoholic intoxication may be followed by perturbation of consciousness and amnesia, but no one who commits a crime while in the state of senseless drunkenness can be freed from responsibility. Forensically, therefore, a distinction must be made between the clouded consciousness and loss of recollection due to disease, and that which has been self-induced.

We have still to consider those disorders of memory in which the power of recollection remains apparently undisturbed, but in which the memory contents are more or less glaringly falsified. In such cases the patients can well respond to all questions notwithstanding the fact that their memories are most defective. They are able to cover their loss of recollection by filling in the gaps with the confabulations previously referred to. Then we find the memory contents replaced by free inventions, often of the most fantastic kind. What the patient brings forth constitutes not his real experiences, but the products of his vivid imagination. Naturally the physician must be in possession of a

trustworthy anamnesis in order to be able to determine which of the statements that do not clearly bear the stamp of invention are imaginary and which are actually true.

Of less significance diagnostically are the transmutations that paranoiacs and melancholiacs often give to their memory images. The melancholiac looks upon his entire life as a chain of calamitous, sinful deeds, every harmless escapade of his youth being tinged by the somber light of his self-accusations of wickedness. The paranoiac, once his delusions have become systematized, weaves into his past life the existing ideas of persecution and everywhere discovers traces of the malevolent activities of his enemies. This false interpretation of recollection, often embracing the entire past and termed "délire retrograde" by the French, is manifestly a logical deduction from the existing delusions. As the question involved is one rather of the false interpretation of actual experience than of true memory defects, such instances are termed illusions of memory.

In contradistinction, confabulations are designated as hallucinations of memory. In the latter, the existing memory images are not only transformed and interpreted in the sense of a definite delusion, but they are also embellished by pure products of the imagination. In some instances tales of sheer invention which the patients believe to be actual experiences are substituted for the memory contents that have been lost. Such confabulations are particularly encountered in many paranoid states, and, of course, are of chief significance for diagnosis. Very often they are present in true systematized paranoia, but more especially in the end stages, when they accompany delusions of grandeur. The patient thus afflicted will often fabulate the most extraordinary imaginings and recount them embellished by the most minute details of time and place, as though they were reminiscences from his own life. The confabulations of paranoiacs almost always contain ideas of grandeur and persecution. Thus a paranoiac belonging to a German family of the working class tells us he is the son of one of the ruling families of Europe and direct heir to the German throne, but, owing to political intrigues, he has been supplanted and exiled and now must live as a poor laborer in a foreign country, etc. This story is elaborated so fantastically as to create the impression that we are dealing partly with paranoiac interpretations

of actual memory pictures, partly with pure invention, partly with a falsified reproduction of something the man has read and which has so stimulated his imagination that he believes himself to be the actual hero of the story.

The confabulations that we meet in the paranoid forms of dementia præcox are dominated entirely by the imagination. Their contents are so silly and impossible that there cannot be a moment's doubt regarding the diagnosis. One patient may say he lived three thousand years ago; another that he sailed the seas with Columbus, was drowned in the Atlantic, resuscitated and given a new lease of life in order that he might discover the North Pole; and still another has experienced the most fearful adventures, has fought with dragons and has taken an active part in all historical events of ancient and mediæval times. All these things are expounded with the greatest picturesqueness and vivacity, just as though it were quite impossible for them to have been otherwise.

Confabulations are also encountered in those psychoses in which marked memory defects, especially for recent events, are present—particularly in general paresis. In some of these cases confabulations may for a long time dominate the entire picture of disease and leave no doubt regarding their paretic nature. The fantastic adventures and experiences, the weakminded vaporings of the paretic, are all placed in the far distant or in the most recent past. He has withstood the audacious attacks of pirates or wild beasts, has overcome countless enemies, lived upon other planets, accomplished the most prodigious deeds, etc. The confabulations are very similar to those of the paranoid form of dementia præcox, and in order not to confound the two diseases the other symptoms of paresis must be carefully sought.

Confabulations occur in delirium tremens, but those never relate to a time antedating the onset of the delirium. The balance of the memory contents remains intact and unaltered. A person in alcoholic delirium need only be asked a simple question—why his feet are bare, why he is clad only in a shirt, where he has left his shoes, what his wife and family are doing—and he will promptly give a precise answer that clearly bears the stamp of concoction, a lie made up to meet the emergency. In chronic alcoholic delirium (Korsakoff's Disease) confabulations

are as typical and cardinal as are the disorders of memory for recent events. While in the acute delirium of alcoholism the loss of memory covers only the period of the delirium, in the chronic form of delirium we encounter a retrograde amnesia, in accordance with which the confabulations are naturally more extended. A parallelism between the disorders of memory and the confabulations can be discerned in all cases. In chronic alcoholic delirium we find upon the one hand emergency confabulations similar to those of acute delirium and upon the other those that are analogous to the feebleminded boastings of the paretic. The differential diagnosis between this chronic delirium and paresis frequently is not easy, but it can always be made from the history of the course of the disease when it is not possible to do so from the clinical symptoms themselves.

Associated with marked restriction of memory for recent events confabulations are often also present in senile dementia, creating a condition which may so resemble Korsakoff's syndrome as to warrant the symptomatic designation "senile Korsakoff's Psychosis." Patients thus afflicted believe themselves to be taking long journeys, think their bed is a railroad carriage, undergo the most adventuresome experiences and recount them with the most astonishing vividness.

In contradistinction to dementia senilis and the other psychoses we have mentioned, in which the confabulations represent illusions and hallucinations of the memory, there also exist psychic disturbances in which the confabulations are not the result of defects of memory and which in some instances are not even dependent upon intellectual defects. Thus manic patients have a tendency to boast of the extraordinary occurrences in which they have taken part. Here there is no question of falsification of memory, for the patients well know that the experiences they relate have never taken place. Their confabulations are essentially an expression of their exalted mood and are evolved for the purpose of impressing their auditors. Such patients are happy when they find a listener willing to accept their statements at their face value.

There is a large number of individuals in whom the symptoms of fabulation are permanently present and represent a trait of character. Such confabulations form, so to speak, a constitutional anomaly upon a psychopathological or hysteric basis. All

gradations of these anomalies are met with—unpremeditated slight alteration of individual occurrences, purposeful misstatements, a blending of fiction, truth and falsehood, and grotesque deliberate deceit. There exist many persons who are entertaining, whose imagination is so fertile that every occurrence which they relate undergoes a most artistic, poetic and interesting transformation. Such pathological tricksters may be harmless or they may be a danger to the community. In the latter class we find those international adventurers who often play a certain rôle in society, remain unexposed for a long time and finally end their careers in prison or in an asylum. The cunning with which such individuals are able to deceive those about them precludes the existence of any intellectual defect. They never invent stories that are manifestly untrue, but they know well how to intertwine actual and fictitious happenings so that they will appear credible, or at least possible, even to the critical listener. It is certain at any rate that the confabulations of such individuals should not in all instances be characterized as purposeful falsehoods; often enough they themselves believe in their pathological impositions, which not infrequently represent the outcome of their devotion to novels and newspapers. The question of legal responsibility in such cases can be determined alone by the presence or absence of other pathological symptoms. Where such symptoms are unmistakably present we must also expect to find so high a degree of moral deficiency that at least a restriction of free determination of the will should be assumed. In the absence of such symptoms no other conclusion is admissible than that we are dealing with an ordinary adventurer and criminal who is fully responsible for his illegal acts.

As a matter of fact, our criminal laws do not apply to the confabulations of insane persons, but cover only those harmful ones of people of sound mind. Under no circumstances should we lose sight of the fact that lying and trickery must be considered pathological only when they are the product of illusions and hallucinations of memory. Evil may result from confabulations not only because they deceive and defraud credulous persons, but also because they result in the disgrace of innocent parties. Particularly dangerous in this regard are the slanderous accusations made by hysterics against physicians and others in which they maintain that they have been sexually insulted or assaulted.

Frequently these accusations are nothing but pure invention, embellished by fantastic enlargement, staged for the purpose of satisfying personal sensational lust. Such cases must be differentiated from those in which abnormal sensations in the genital sphere are the cause of the accusations, the latter in such instances being made in good faith. In contrast to conscious confabulations there are also the false accusations made by epileptics and alcoholics as a result of their illusions and hallucinations. In their delirium such patients often believe themselves to be threatened or attacked and have actual struggles with imaginary individuals; and when these sense disorders have disappeared and they have become mentally clear, they are still firmly convinced of the reality of the attacks. This accounts for false accusations against physicians, nurses and other people in their surroundings. On the other hand, the patients sometimes continue to believe in the evil deeds or crimes which they recollect having committed in their delirious state, and then they go to a police station to give themselves up because of the hallucinated crimes. Where the facts are known and where the anamnesis shows an epileptic or alcoholic delirium to have preceded such self-accusations, it should not be difficult to recognize the true state of affairs.

5. THE INTELLIGENCE AND JUDGMENT

As we have seen, the confabulations, false accusations and other misleading statements made by mentally disordered individuals differ chiefly from those of mentally healthy persons in that they are the product of sense deceptions, loss of recollection and other disturbances of memory. Hence a test of the memory is not only diagnostically but also forensically of great importance, for its results permit us to conclude definitely whether any warrant exists for the assumption that an accused individual has suffered from a clouding of consciousness and loss of recollection. Of equal importance is the test of the intelligence, which we shall now consider. From the conversation with the patient, from the anamnesis the patient himself gives, it will not be difficult for the examining physician to obtain a fairly clear impression of his general intelligence and to determine whether he is cultured or uncultured, talented or feebleminded. Nevertheless

important intellectual defects may exist that hitherto have passed unobserved. By means of a test of the intelligence, the physician endeavors to obtain as complete an inventory as possible of the patient's mental acquirements—particularly in forensic cases in which it is important to understand the entire psychic life of the accused individual. It is less important to determine the extent of knowledge the subject may have acquired than to ascertain the degree of his independent power of judgment. In order that nothing may be overlooked in making the examination a certain plan must be followed, and it will be well to make use of the methods most generally in vogue. It is impossible to draw a sharp dividing line between an intelligence test and a memory test. Inasmuch as all judgment is dependent upon association of sensory impression—that is, of the memory pictures of those impressions that have been retained—the circle of ideas will necessarily become restricted when memory has been lost, and this restriction cannot fail to react upon the power of judgment. In fact, therefore, intelligence tests and memory tests cover the same grounds; but this by no means implies that a parallelism exists between memory and intelligence. Not infrequently we find persons with extraordinary memories, persons who never forget what they have heard or read, but who intellectually stand upon a very inferior plane, their power of judgment not being sufficient to enable them to connect logically and purposefully the things they have heard and read. On the other hand a person's memory may be very bad and still he may have an excellent power of judgment. Hence, memory and intelligence can never serve as gages of each other. Let us exemplify this. Two patients are requested to compose a letter, an autobiography or an essay upon a given subject. One will submit a production that is grammatically correct, while the other's is replete with errors. From this fact alone it would be a mistake to conclude that the former occupies a high plane of intelligence and the other a low one. The first patient has had a high-school education and the rules of grammar have remained fixed in his memory, but the other, having had but a sparse schooling, has learned no grammar at all. What the latter man writes, however, is purposeful and logical, while the writing of the other despite his correctness is irrelevant and nonsensical. This shows that no test of the intelligence can be of value unless a careful

consideration is given to the patient's social position and educational opportunities. The diagnostic significance of grammatical errors in a written composition, ignorance of the laws of physics, anachronisms regarding important historical events, etc., will vary extremely in accordance with the patient's educational advantages. When such mistakes are encountered in patients of little education, they can by no means be construed as evidences of intellectual weakness, but in a person of college training they represent positive evidence of intellectual decline. The decision must always rest on a comparison of the present psychic comportment and that previously existing. A person who has grown up in ignorance divulges his pathological intellectual weakness by the inability to combine into orderly relations those notions that accord with his state of education, and which are aroused by the impressions produced by things about him. In a person of greater culture the decay of mental power will manifest itself partly by a progressive loss of the knowledge he has acquired, partly by an increasing disturbance of judgment and orderly thought. The evidence needed to determine the diagnosis is furnished not by a comparison with other individuals, but by comparing the patient's intellectual self with what he was before the onset of the disease. The disability of judgment is produced because certain percepts are only superficially anchored in the memory store, have not been mentally assimilated, and, therefore, cannot be associatively combined.

Being obliged to deal with patients of every degree of intelligence and education, the alienist, and more especially the forensic psychiatrist, should possess an extended practical knowledge of people and things and, in particular, should be able to comprehend all possible phases of another person's mind and to place himself in all possible situations of daily life. Only in this manner will he be able to estimate the mentality of the patients, to appreciate their powers of judgment and to understand what part of their intellect has been affected and what part has remained undisturbed. The main difficulty, therefore, will be found in the selection of those problems that are to constitute the means for testing the intelligence in such a manner that justice may be done to all grades of individuals and to the most varied phases of human mental activity.

An excellent method for estimating the degree of a person's

intelligence is the so-called association test. This is based upon the fact that association of ideas represents the most elementary as well as the most significant manifestation of psychic life and is looked upon by modern psycho-physics as the prime principle of all psychic happenings. I cannot here enter into details of that newer association psychology with which every psychiatrist should be fully conversant. The jurist also should be so well acquainted with Wundt's association laws that the significance of the association processes will be clear to him. Briefly stated, the association test is based primarily on the selection of a number of words adapted to the patient's grade of culture. These words are called "stimuli." When a peasant hears the word "corn," a blacksmith the word "hammer," a philosopher the word "Plato," etc., the association activities of the respective individuals are aroused, and each will give expression to the first thought brought to his mind by the particular "word stimulus."

The association test for an evaluation of the intelligence may be divided into two parts—a general and a special one. The general part is that designated as the statistic method for the computation of the association breadth. This method is applied as follows:

We take a schedule of one hundred different words which denote all kinds of objects and their properties. These different excitation words are uttered in a loud voice, the patient being required to tell at once what associations are produced in his mind by each one. After a lapse of at least four weeks, this procedure is repeated. The reactions obtained after each test having been carefully noted, we can by calculation derive from them the number which we designate as the association breadth, i. e., the percentage that expresses the number of different reactions (associations) that will result from one hundred different word stimuli.

In very intelligent and cultured persons these one hundred word stimuli at the very first test usually call forth ninety-five to one hundred different associations; in less intelligent persons and in feeble-minded patients, even at this very first test, the same reaction will be found to recur again and again. The second test is far more important than the first one, for only then does the difference in the extent of the perceptual store become apparent. The mentally superior person will not need to revert to the

associations that were produced in him by the first test, but will bring forth new reactions. In the feeble-minded person, on the other hand, the control test will cause more or less repetition of the associations evolved by the first test.

The association breadth thus determined is, therefore, a fairly accurate measure of a patient's intelligence and cultural development. In general the association breadth of an adult may be taken to be about 80 to 90%. Whenever the figure falls to 70% we are justified in suspecting the existence of intellectual weakness. Where the association breadth is 60% or less, there can be no doubt of its pathological significance, even if a higher figure was obtained in the first test, as is often the case in people of slight intelligence.

By means of this test, therefore, we are able to establish an approximate numerical index for the degree of existing intelligence or feeble-mindedness. The method is applicable to most patients —to idiots and feeble-minded, to maniacs, melancholiacs, paranoiacs, paretics, and even to those in a state of alcoholic delirium or epileptic confusion. Of course this does not signify that other methods, such, for instance, as the Binet-Simon test, may not be quite as serviceable or even more serviceable in individual cases. As a matter of fact, all methods for the evaluation of intelligence are to a greater or less extent association tests.

Whether the forensic psychiatrist's task be to demonstrate the insanity of a person claimed to be sane, or to prove the insanity of a person simulating mental disorder, the examination of the intelligence cannot well be dispensed with. Association tests will furnish us with the following information that may be of value in differential diagnosis:

1. In paresis, frequently very early, a remarkably low association breadth, one which does not harmonize with the person's degree of education, may be determined. Moreover, the responses of the paretic are often markedly retarded, and are produced only with effort, after a distressful and embarrassed search. It is also characteristic of paretics who in current conversation talk freely and easily that they become uncertain and helpless as soon as they are given a definite task to carry out. The same result manifests itself when an attempt is made by means of a word stimulus to call their association processes into activity.

2. The bizarreries of katatonics will often become manifest in their associations. Some of them will show a marked preference for contrasting ideas—for instance, in responding to the stimulus word "hot," by immediately talking of something belonging to the category of cold. Such reactions may be looked upon as negativistic associations. Occasionally also katatonics will react to entirely different stimuli by one and the same answer. In individual cases this may go so far that, throughout the entire test, one and the same association is constantly reiterated in a monotonous tone of voice. Similarly new word constructions, speech distortions and paralogisms may be obtained in response to the association tests.

3. In the maniac, when an association test is at all possible, flight of ideas may easily be demonstrated. No sooner has the stimulus word been uttered than it is followed, with extraordinary rapidity, by an entire chain of different reactions, the end link of which bears no relation whatsoever to the original stimulus word. In the maniac there will also be found tone associations, produced essentially by the sound of the stimulus word, and not by its meaning, as, for instance, "dog-fog," "daughter-water," etc.

4. In epileptic patients the associations elicited by the test must be considered entirely by themselves and independently of the stimulus word. In many instances they will lay bare the whole pathological character of the epileptic, his egotism, his exaggerated religiosity, his tendency to pedantry and to rambling discursiveness. In epileptic feeble-mindedness the statistical method will give us an indication of the existing degree of dementia and this often will be found to be much greater than would apriori have been surmised.

5. Idiots usually show more aptness in association tests than would be expected. Of course the association breadth will be very limited, usually below 40%, decreasing to zero in accordance with the degree of intelligence. More recently a large number of investigators has preferred to use the Binet-Simon test for determining the fluctuations in the association breadth of idiots and imbeciles. This test consists in the selection of a number of questions which correspond to the normal judgment at different ages. The subjects of the test are then grouped in accordance with their intelligence and not in accordance with their

ages. If, for instance, the subject is eighteen years of age, but can answer only such questions as correspond to the intellectual grade of a child twelve years old, this person will be classified, in accordance with the Binet-Simon age, as twelve years of age.

In addition to the established invariable schedule of one hundred excitation words used for the statistic computation of the association breadth, certain cases will require the employment of a specially arranged schedule containing excitation words which will inform us concerning the processes that momentarily exist. In such instances it is a question of obtaining material for differential diagnosis as well as for the establishment of the individual psychology. The entire test, then, is a disguised search for pathological conditions. Such word stimuli as "enemies," "voices," "president," "millionaire," which are related to depressive or expansive delusions, will often call forth very interesting reactions when unobtrusively interspersed among other word stimuli of indifferent significance.

Equally dependent upon the principle of individual psychology is the method of submitting individual capabilities of a patient to a closer test. According to his station and culture he may be asked to write a short dissertation upon some historical, theological, geographical, philosophical, literary or technical subject, upon a topic of the day, political, economical, occupational or otherwise. Or the patient may be verbally questioned regarding matters in which he is interested most, or which take up the greater part of his time. In this manner it is often possible to determine that a certain talent, possibly that for arithmetic, or drawing, or music, is preeminently developed, while other psychic attainments have remained so backward that the intelligence and breadth of association are below the average.

Naturally there are many methods in addition to those outlined. Every experienced psychiatrist will be able to elaborate variations of the methods we have mentioned, in order to meet the requirements of special and unusual cases. Of course, the examination cannot and need not be carried out in every case precisely as we have described it. Special attention should be drawn to the fact that the question whether the patient does or does not recognize he is sick can by no means be made to form any part of his intelligence test. This question, in fact, is of no

practical import, inasmuch as insane patients, with few exceptions, have only a very vague appreciation, if any, of their illness. When they do appreciate it, we have an important symptom of beginning or complete recovery, and hence this is of value only for prognosis and not for diagnosis.

Part Second

PSYCHIATRIC EXPERTISM

SPECIAL DIAGNOSTICS OF MENTAL DISORDERS

THE bodily and psychic examination described in the foregoing pages furnishes merely the general basis for an expert opinion of a concrete case. We will now see how the material derived from the examination of the patients may be elaborated so as to constitute an exact diagnosis. In forensic-psychiatric expertism it is especially important to submit the results of the examination to the judge in such form that he will obtain a sufficiently clear insight into the nature of the doubtful mental state to enable him to arrive at a correct decision. The diagnosis may be scientifically correct, but be valueless for that purpose because not in proper form, or else, while correct as to form, it may be entirely inadequate in a scientific sense. Equal care should be given to both details.

Let us now proceed to a consideration of the special diagnostics.

I

PSYCHOSES IN GENERAL

1. Paresis

One of the most variable of psychoses, hence often most difficult to diagnose, is paresis, popularly known as softening of the brain. It is a chronic incurable progressive insanity that leads to complete dementia, is accompanied in its course by signs of organic lesion, affects mainly persons of middle age (thirty-five to forty-five years), and generally ends in death after a few years. In nearly all cases, either by means of the previous history or of the Wassermann test, it may be shown that syphilis was present, and for that reason it may now be said with confidence that paresis is a result of syphilitic infection. Since the discovery by Noguchi and Moore of spirochætes in twelve out of seventy-five brains of general paralytics, a discovery confirmed by many observers, all doubt as to the essential cause of the disease has been dispelled. In a series of one hundred brains of persons dying from paresis Mott has found the spirochætes in sixty-six. They exist scattered all over the gray matter of the cortex, but can be found more especially over the frontal lobes. If the preparation is made soon after death, the organisms can be seen moving. In practically every case of general paralysis the spinal fluid gives a positive Wassermann reaction. Sometimes the disease sets in during childhood as a result of inherited lues. Of sixty juvenile paretics he had collected, Mott says that twenty per cent had one parent who was a paretic, usually the father. Conjugal paresis also has been observed. Men are affected three or four times as often as women. The paretic destructive process may be hidden under the mask of a maniacal, melancholiac, paranoid or other state of disease, making a positive diagnosis very difficult.

On account of the very frequent occurrence of paresis, its absolutely unfavorable prognosis, and the many dangers involved for the family of the patient, the early recognition of this psy-

chosis is of eminent importance. A positive Wassermann reaction of the blood and spinal fluid, an increased cell count and an increased globulin reaction of the spinal fluid render early recognition fairly certain. The value the Abderhalden sero-diagnosis test may have in this regard cannot as yet be determined. But even without the aid of newer methods of investigation a precise diagnosis can often be made in the very early stages. In the majority of instances there are present, in addition to decided increasing mental weakness, certain typical symptoms of nerve irritation and loss of function. Wherever a psychosis occurring in middle age presents the typical nerve symptoms of a large number of signs of nerve irritation—there must be an immediate suspicion that paresis is developing. Not all nerve symptoms are of equal value for the diagnosis of this disease, but there are three which, if associated with any sign of mental disorder, are almost positive indications. These are:

(1) Pupilary Disorders. The pupils may be either abnormally small (myosis) or extraordinarily large (mydriasis); often inequality of the pupils or an irregularity in contour of one pupil exists. The reaction to light may be sluggish or lost upon one or both sides, while the reaction to accommodation is retained (Argyll-Robertson pupil).

(2) Defective Response of Knee Jerks. The response of one or both knee jerks or foot jerks may be absent or reduced.

(3) Disorders of Speech. The speech becomes hesitating or stumbling, and often very early acquires a nasal character.

These three nerve symptoms are most often present at an early stage of the disease. Optic nerve atrophy may also be an early symptom. While its occurrence in paresis is not frequent, it will, when present, serve to corroborate an otherwise doubtful diagnosis. Hence it may be said that every mental disorder occurring in a middle-aged person and characterized by progressive diminution of mental powers, together with reflex rigidity of the pupils, absence of one or both knee jerks, and disorders of speech or optic atrophy, should be diagnosed as paresis.

In addition to these cardinal symptoms, however, there are others which, when associated with psychic weakness, indicate the existence of paresis. The latter point to affections of the most varied organs and parts of the body, and may be classified as follows:

(A) Disorders of motility. Tremor of the extended and abducted fingers, tremor of the tongue as well as in the rest of the musculature of the body, unequal facial innervation (slight facial paralysis), ataxia of the extremities, swaying of the body with the eyes closed, and reduced muscular power (grasp of the hand). Very characteristic signs are pronounced difference in the innervation of the two sides of the body, ptosis, strabismus and weakness or paralysis of the eye muscles. Especially frequent are those peculiarities of innervation of the mimic musculature known as "associated movements."

(B) Disorders of sensibility. In the beginning of a paresis, neuralgia, severe headaches and lancinating pains in the legs are often present. Frequently also there is a reduction or loss of sensibility in the lower extremities.

(C) Disorders of the nerves of special sense. The sense of smell is often lost, that of taste less frequently.

(D) Disturbances in the handwriting. Tremorous, ataxic and paralytic writing.

(E) Disturbances in reading. These often occur at a time when speech disturbances are as yet merely indicated. The patients no longer comprehend written characters and, therefore, interpret them falsely. In addition to the errors made in reading, more or less gross mistakes in talking are also made.

(F) Disordered reflexes. The absence of knee jerks, foot jerks and pupilary reflexes has already been mentioned under the cardinal symptoms. Not infrequently the knee jerks are markedly reduced; very often they are over-active and then a foot clonus is obtainable. Sometimes in the beginning of a paresis the knee jerks are strongly increased, but they become weaker and weaker until they finally disappear. Another characteristic is an inequality of the reflexes of both sides, so that a reflex upon the one side may be markedly greater or smaller than the corresponding reflex upon the other side.

(G) Paralytic attacks or "spells." These may be differentiated as simple, epileptiform and apoplectiform attacks. The simple attacks are transitory spells of dizziness or faintness, not infrequently followed by a brief state of confusion, with occasional loss of power of speech. The epileptiform attacks usually are of the cortical convulsive type (Jacksonian epilepsy): less often they are true epileptic seizures. They are usually fol-

lowed by distinct impairment in the bodily and mental conditions. They differ from true epileptic convulsions in having an accentuated cortical character, progressing from one muscular territory to another, and in the long duration of many of the attacks, the slight impairment of consciousness that usually accompanies them, and the focal symptoms often transitorily present after the attack (hemiplegia, aphasia, spasms). Apoplectiform attacks are less frequent than the other kinds. The patient when thus afflicted turns pale, suddenly loses consciousness and falls to the ground. Upon the return of consciousness focal symptoms are usually present, but soon disappear completely.

The transitory nature of all these paralyses is characteristic of paresis. Hence, if epileptiform or apoplectiform attacks, followed by paralyses, which rapidly and completely disappear, occur in an individual of middle age, they should always arouse a suspicion of the existence of a beginning paresis. In this disease all the nervous symptoms we have mentioned may be present in various combinations. In general a positive diagnosis can be made when several of the symptoms are present and are associated with incipient mental weakness. In many cases of paresis, pronounced nerve symptoms are altogether absent or else manifest themselves only very late in the course of the disease. Then our diagnosis will have to depend entirely upon a psychological analysis of the case. Every such paresis, even when in other ways it resembles a paranoia, melancholia or other psychosis, will to a greater or less degree bear the following characteristic symptoms:

(1) Disorders of intelligence and impairment of intellectual powers. These manifest themselves in an enfeeblement of judgment, in uncritical delusions, in a disability for persistent exertion and in an erroneous conception of external happenings.

(2) Disorders of memory. Forgetfulness is a frequent symptom of paresis. Impairment appears particularly early in whatever knowledge has been acquired by rote, such as the multiplication table, dates, geographical names, etc. Where a suspicion of paresis exists the memory, on account of the marked diagnostic significance of its disorders, must be carefully tested according to the methods indicated in a previous chapter.

(3) Disorders of moral sensibility. The patients become

indifferent to the requirements of proper conduct, commit indiscretions and offenses, show carelessness and uncleanliness in person and dress, and not infrequently indulge in drink or other excesses.

Hence, we may repeat that whenever in persons of middle age we encounter a noticeable change in character marked more especially by an impairment of the intellectual powers, by defects of memory and moral weakness, a strong suspicion of a beginning paresis is warranted even if typical nerve symptoms such as pupilary rigidity are lacking.

Finally, it is of importance for the early diagnosis of paresis to remember that this affection almost always begins slowly and insidiously. The initial stage in the majority of instances presents the same aspects. As a rule the first indications, which, by the way, do not disclose the seriousness of the trouble and often cause it to be looked upon as a neurasthenia, are very vague symptoms made up of a certain nervous restlessness, irritability, sleeplessness and apprehensive depression. Soon the patient becomes forgetful, distraught, inattentive and careless and is unable to follow his occupation with his wonted precision. The signs of mental weakness become more and more pronounced, the transgressions of good breeding more and more distinct and the alterations of character more marked, until finally we are led to a recognition of the actual trouble by an unexpected act of violence, not infrequently an offense against public decency or some other contravention of the law, a paralytic attack, the onset of delusions or some other symptom of insanity. The initial stage is followed by more or less rapid progress of the disease. Next to dementia præcox, paresis is the most Protean of all psychoses; and for this reason all other psychoses must be passed in review before a differential diagnosis can be made. When we find such unmistakable symptoms as pupilary rigidity or absent knee jerks, and particularly when these are supported by a positive Wassermann test, there can be no doubt regarding the diagnosis. But if definite physical symptoms are lacking, when an apparently functional disease is present, the diagnosis becomes essentially a question of psychologic analysis.

The recognition of dementia præcox and of paresis in their early stages constitutes one of the chief problems of psychiatric

diagnosis, and at the same time one that carries with it the utmost significance from a social and forensic point of view. For this reason these affections should always stand in the foreground of our deliberations. Occasionally paresis occurs before the twentieth year, and then it is generally dependent upon hereditary syphilis. Paresis is met with also between the twentieth and thirtieth year and is then designated as juvenile. Aside from their early occurrences, these two forms of the disease present no special feature differing from ordinary paresis.

In accordance with the dominance of individual symptoms, paresis may be divided into four distinct classes, as follows: the demented, the depressive, the expansive and the agitated form.

A. THE DEMENTED FORM OF PARESIS

This type is the most common, and nearly one-half of all cases of paresis follow their course as a simple progressive dementing process, devoid of all other psychic symptoms such as melancholia or manic phases, hallucinatory excitement or marked delusional manifestations.

The initial stage is similar in all forms of paresis. The patients become restless, sleepless, irritable and forgetful. Their inability to adjust themselves to ordinary conditions of life becomes more and more manifest, and they soon become distraught and inattentive. The official who previously was always reliable neglects his duties and behaves toward his superiors in an unseemly manner. Without noticing it themselves, the patients become dull and apathetic, lose their sense of propriety and take no interest in the doings of the people about them. From time to time slight and inadequate causes will produce conditions of excitement. Soon the alteration of character becomes more pronounced. The patients neglect personal appearance, make use of indecent expressions, associate with the commonest people and not infrequently commit deeds that bring them into conflict with the law.

The acme of the disease is signalized by the presence of accentuated characteristic symptoms. The handwriting is paretic, the speech disordered, and tremor, ataxia, paralytic attacks and other motor and sensory manifestations make their appearance.

Delusions also are present, having more often a paranoid or hypochondriacal coloration, but occasionally they are feeble-minded delusions of grandeur. The memory shows distinct defects in every direction. Important occurrences in the previous life of the patient, geographical and historical facts, and even everyday occurrences are forgotten. His store of words is manifestly reduced, and often abridged to a few expressions which are constantly used and repeated. He commits gross errors of calculation in the most simple arithmetical problems, his emotional tone is apathetic or depressed, or else is characterized by a stupid, feeble-minded sense of contentment. Paralytic attacks are of very frequent occurrence in the demented form of paresis.

Occasionally remissions occur, during which all the mental symptoms of the disease, even the disorders of intelligence, may disappear, and one or other of the physical symptoms may be much less pronounced than previously. These remissions very rarely last longer than several months. Then the disease takes on a fresh impetus, which leads to permanent dementia. All psychic life is destroyed; memory, except for a few occurrences of early life, is entirely obliterated. The patient chatters nonsensically, or else he is more or less stolid and leads an animal-like existence in which the excretions are uncontrolled and involuntarily passed. Not infrequently as a result of the physical passivity and mental apathy, bed sores are produced. Usually death occurs as a result of a paralytic attack, an aspiration pneumonia or some other intercurrent disease.

Differential Diagnosis

The demented form of paresis may be confounded with neurasthenia, with the convulsions of epilepsy or uræmia, with brain syphilis, focal disease of the brain and senile dementia.

Like the paretic, the neurasthenic may manifest an incapacity for concentrated mental work, and a marked tendency to fatigue, may be emotionally hypersensitive, hypochondriacal and anxious and may complain of dizziness, head pressure and tremor. His reflexes, too, may be greatly increased. But the neurasthenic always has a pronounced feeling of illness, recognizes that he is sick and desires to be cured. His hypochon-

driacal apprehensions are always preceded by actual disturbances, although these may be very insignificant. Pupilary rigidity and the other typical paretic symptoms are absent. Besides, the neurasthenic patient shows no intellectual decline and no defects of memory, and he does not violate the requirements of moral obligations. Rest improves the neurasthenic, but not the paretic.

We have already mentioned how the paralytic attacks of paretics may be differentiated from the convulsions of epileptics. Those of uræmia may be distinguished by the accompanying œdemas, the asthmatic spells and the frequent presence of singultus or vomiting. Besides, the urine contains albumin and casts.

Brain syphilis is often most difficult to differentiate from paresis. In brain syphilis we would be likely to find signs of syphilis in other parts of the body, but this is true also of paresis. The most reliable differential diagnostic test will be found in the results that may be obtained by means of antisyphilitic treatment. It will often produce prompt amelioration in brain syphilis, but in paresis such success has not as yet been obtained, notwithstanding the claims of recent clinicians.

Focal diseases of the brain, more particularly of the frontal lobes, may produce a clinical picture similar to that of paresis. The general symptoms of brain tumor (choked disc, etc.), as well as the focal symptoms that are present, when taken in connection with the previous history of the patient's illness, will usually lead to a correct diagnosis.

The states of pseudo-paresis that follow intoxications of alcohol, lead, carbonic oxide, etc., differ from true paretic states in the amelioration that ensues in the bodily and mental symptoms when the causal poisoning has been withdrawn and eliminated. Not infrequently paretics in the beginning of their disease have recourse to alcoholic stimulation; and as a rule, because the disease has already made them intolerant to alcohol, they show the intoxication effects much more strikingly. Not infrequently delirium tremens supervenes. Only after a long period of abstinence, when the symptoms of alcoholic intoxication have disappeared, can the diagnosis be made with certainty. Then, if speech defects, pupilary rigidity and other paretic symptoms are still demonstrable, it is probable the disease is present. In

pseudo-paresis due to lead poisoning, the presence of musculospiral and other paralyses, as well as of peculiar states of stupor, together with the general symptoms of lead poisoning, will aid us in recognizing the trouble. To-day it no longer holds true that a saturnine encephalopathy may be indistinguishable from paresis, either by its clinical picture or its course.

Senile dementia, finally, may be differentiated from paresis by the loss of memory for recent events, while the old memory store remains clear and trustworthy during an astonishingly long period of time. Moreover the mildness of the symptoms of nerve irritation or nerve destruction and the slower course of the dementia will be of diagnostic aid. Old age and signs of senile decay (presbyopia, arcus senilis, arteriosclerosis, etc.), all point to a senile dementia, of course.

B. THE DEPRESSIVE FORM OF GENERAL PARESIS

The entire picture of this clinical type is dominated by a state of sorrowful depression with depressive delusions. Not infrequently conditions develop which very much resemble a melancholia, especially when ideas of sinfulness are present. The depressive form of paresis most often occurs at a somewhat later age than the other forms, usually setting in between the fortieth and forty-fifth year of life. Notwithstanding its marked resemblance to a true melancholia, its paretic character can usually be recognized in the early stage of its development. The sorrowful affect is not so deep nor so persistent as in true melancholia. Apathy and indifference, notwithstanding the existence of depressing delusions, dominate the entire situation, and the patient's appetite and ingestion of food are usually good.

The characteristic sign, the mental weakness, becomes more and more manifest; expression is given to absurd hypochondriac and paranoid delusions; hallucinations, especially of hearing, are not infrequent. States of fear in which the patients may attempt self-destruction are transitorily present. Often the depression is interrupted by short periods of euphoria, during which isolated childish ideas of grandeur are unfolded. In some instances of the depressive form, the picture is characterized by the presence of more or less systematized delusions of

grandeur, in a way resembling paranoia. Thought audition in which everything the patient thinks or speaks is announced or repeated by the voices, and other hallucinations, notions of allusion, delusions of inferiority and similar symptoms occur. But sooner or later there sets in a progressive mental decline, accompanied by other symptoms of paresis, including paretic or paralytic attacks.

Differential Diagnosis

From a diagnostic point of view the main differential question will be of a melancholia or a paranoia. In men melancholia occurring before the fiftieth year is rare. Hence, in considering the possibility of melancholia we need only do so in cases of women, in whom this affection often begins around the forty-fifth year. In melancholia we meet with a continuous and persisting deeply sorrowful state, accompanied by depressive delusions. The paretic is more unstable, often apathetic, and occasionally euphoric. His delusions are most changeable. Not infrequently in the early stages of paresis we encounter involuntary micturition, a symptom that is hardly ever present in melancholia. The melancholiac weeps but little or not at all. The paretic sheds tears frequently and profusely. The adept will be able to draw differential diagnostic conclusions even from the facial expression. The physiognomy of the melancholiac is stolid, that of the paretic relaxed and undefined. Somatic symptoms such as pupilary rigidity, absent knee jerks, etc., will, of course, indicate paresis. A history of lues and a positive Wassermann reaction will also be obtainable where paresis is present.

So far as the differential diagnosis from paranoia is concerned, the paretic with paranoid delusions may be distinguished from the true paranoiac by the slight influence that the delusions exert upon his actions, by the ease with which his delusions may be influenced, and by the inconsistencies or by the monotony or rapid changeability of his delusions. In the paretic, the paranoiac character is but slightly emphasized. On the contrary, the patients are usually lax and without energy, while true paranoiacs defend their system of delusions with passionate volubility. During the further course of paresis the

increasing psychic enfeeblement, together with the somatic symptoms, will make the diagnosis clear.

C. EXPANSIVE OR CLASSIC FORM OF PARESIS

This form of dementia paralytica is characterized essentially by the existence of paretic delusions of grandeur. After the ordinary initial symptoms of paresis are noted the patient passes through a depressive stage which gradually reaches its acme, but in exceptional cases occurs suddenly. In the beginning the patients are usually only lightly maniacal, but in a constant state of joyous exaltation, talkative, over-confident and egotistic. This state is followed by one of wild uncontrolled activity. The patients travel to and fro, evolve countless plans of which not one is carried out, and manifest a senseless desire for purchasing everything they see. Soon innumerable and constantly changing notions of grandeur manifest themselves. These carry the evident stamp of feeble-mindedness, bear no relation to one another and may be easily altered and endlessly elaborated by means of suggestive questioning. Often the grandiose ideas are accompanied by wholly nonsensical fantastic confabulations. In his childishly joyous mood the paretic, if not promptly placed under control, will quickly squander his entire fortune. Of frequent occurrence also are states of marked excitement (paretic mania) in which the patients become furiously and blindly destructive and may commit dangerous acts of violence. The grandiose stage may persist for months and years. It is particularly in this expansive form of paresis that remissions occur. Gradually as the disease progresses the grandiose ideas pale and become more monotonous. More and more the dementia obtrudes itself. Symptoms of paralysis become noticeable; the entire emotional life becomes dominated by a childish stupid euphoria. Little by little pronounced dementia sets in; yet all in all the course of the grandiose form of paresis is longer than that of the other forms. It lasts four or five years, and even longer.

Differential Diagnosis

From a differential diagnostic point of view we should not forget that now and then paresis may begin quite suddenly un-

der the guise of an acute mania. If no somatic symptoms of paresis can be discovered, a differential diagnosis cannot be made until the further course of the disease introduces the corroborative symptoms. Usually, however, even in the absence of all somatic symptoms, the existence of paresis may be inferred from the character of the grandiose delusions. The mental weakness that usually places its stamp upon the entire picture, the nonsensical childish ideas of grandeur, the frequent hypochondriacal and paranoiacal delusions, the emotional variations which may suddenly transform a "Crœsus" into a miserable being "who is rotten through and through," the ease with which the delusions can be influenced, are all characteristic of paresis. If at the same time speech disorder, paralytic attacks and other somatic symptoms exist, if the previous history is that of a syphilitic infection, or if the Wassermann reaction is positive, the diagnosis can no longer be in doubt.

Not infrequently a paresis will take its course under the guise of a circular insanity, and this resemblance will be all the more pronounced when accentuated remissions take place. But here again the enfeeblement of mental powers, the memory defects, the immorality, the manifest progress of the disease and the presence of characteristic physical signs will make a correct diagnosis possible.

D. THE AGITATED FORM OF PARESIS

This type represents an expansive form of paresis accompanied by marked constant motor excitement. The patients are in a continuous state of unrest, are unceasingly and purposelessly busy, laugh, sing, talk without interruption, and evolve the most roseate and nonsensical grandiose ideas. This form rarely lasts more than two years. In some instances the intensity of the excitement brings about rapid general exhaustion, which leads to death in a few weeks or months. The agitated form of paresis, on account of its rapidly fatal course, has also been called galloping paresis. From other katatonic maniacal states it can be differentiated by the bodily and mental symptoms of paresis that always accompany it.

Forensic Aspects

Criminal charges against paretics are not so frequent as civil actions against them. This is probably because in most instances it is so manifest the patient is suffering from a mental disorder that he is quickly interned in an institution for the insane. The contraventions of criminal stamp most often committed by paretics are exposure of person and other offenses against public decency, assault with attempt to kill, theft, fraud and incendiarism.

In the estimation of criminal as well as civil offenses, great difficulty may be caused by the remissions that so often occur. Where a punishable act has been committed during such remissions and the diagnosis is clearly established from the previous history and from the continuing physical and mental disturbances, there should be no difficulty in demonstrating the true state of affairs; but where only physical symptoms are present and all the mental ones have passed away, it will hardly be possible to prove the patient is insane. In other words, the physical symptoms of paresis, taken alone, are not sufficient to establish a person's incompetency or irresponsibility. Remissions to the extent of reestablishment of complete mental integrity are most unusual, however. As a rule some disorder of conduct, some alteration in character, some defect in memory will be demonstrable. In those rare instances in which the patient has apparently regained his previous mental health, the careful expert will defer giving a definite opinion for at least one year.

Particularly when the primary psychic weakness is accompanied by a maniacal exaltation associated with grandiose ideas and so slight that its true significance is not yet recognizable, do we encounter instances of senseless expenditures and dissipation which may end in indebtedness of all kinds and possibly financial ruin. It is such conditions that lead to the execution of promissory notes, or of wills, the bestowal of gifts and even the making of a promise to marry. Often enough we hear that a paretic who married a prostitute immediately after meeting her has died within a year or two and left his entire fortune to the widow. Because such dire results are likely, it is well in most instances of paresis to seek the appointment of a guardian

early in the course of the disease. If this rule were followed, many a family would be saved from economic ruin.

2. Dementia Præcox

Just as every psychosis arising in middle age should first lead one to think of a paresis, so all psychoses occurring between the ages of eighteen and twenty-eight should primarily, from a practical standpoint, raise suspicion of a dementia præcox. By the latter term the newer school of psychiatry designates a group of psychoses that bear these two characteristics:

First, they begin in youth, either during or just after puberty.

Second, they involve a progressive mental decline which mainly affects the emotions and the will and to a less extent the thought processes and the memory, therefore, leading to emotional apathy and enfeeblement or loss of will power with a relative retention of sensory receptivity. In some cases deep dementia occurs.

Dementia præcox embraces a large part of all the psychoses that occur in youth. The clinical pictures under which it may manifest itself are extraordinarily diverse. In the beginning there may be symptoms of a depressive, paranoiac or katatonic state, and it is only later that their true character of juvenile dementia becomes plain. The prognosis of dementia præcox is very bad.

Despite the manifold aspects under which this juvenile dementing process takes its course, three main forms may be differentiated, as follows: 1, Dementia præcox simplex; 2, Dementia præcox paranoides; 3, Dementia præcox katatonica.

Formerly these main types of dementia præcox were designated purely symptomatically as mania, melancholia or acute paranoia, or by some other similar term. Even at the present time, after so much has been done by Kraepelin and others to make possible the early recognition of dementia præcox, an erroneous diagnosis of melancholia is most often made. It should be borne in mind that juvenile melancholia is a disease not recognized by the teachings of modern psychiatry. True melancholia is a psychosis of advancing years, of the regressive period of life, and is not of frequent occurrence. In youth

states of depression may arise which bear certain characteristics of melancholia, but differ materially in their course. Moreover we should remember that systematized paranoia usually develops around the beginning of the third or the end of the second decade of life, that paresis is rarely observed before the thirtieth year and that true katatonia is usually a psychosis of middle age. Hence, where we are dealing with a youthful patient, no matter what symptoms he or she may present, melancholia may always be excluded, and only occasionally will it be worth while considering the possibility of paranoia or paresis. The younger the patient the more improbable becomes the possibility of a paranoia or paresis. According to Kraepelin sixty per cent of all cases of dementia præcox begin before the twenty-fifth year, the simple form usually starting between the fifteenth and twenty-fifth year of life, the paranoid form beginning around the end of the second decade and one-half of the katatonic cases setting in around the twenty-fifth year.

A. DEMENTIA PRÆCOX SIMPLEX

Dementia Præcox Simplex, also called hebephrenia, usually begins insidiously and unnoticeably. Its further course is that of a slow progressive dementing process unaccompanied by any decided symptoms, such as severe excitement, marked delusions or katatonic manifestations. The initial symptoms are usually vague and might easily lead us to suppose the trouble is a neurasthenia. The patients complain of sleeplessness, a feeling of exhaustion, headache, inability to work and of similar things. Soon, however, a change in character is noticeable. The patients become quiet, dreamy and reserved. They lose interest in mental pursuits, become indifferent to their friends and relatives, and after a while lead a silent, moody vegetative existence. Now and then they give expression to single depressive delusional ideas. Sense deceptions are rare and play no rôle in this affection. The relatives of the patients, in fact, usually believe them to be not sick, but lazy or obstinate.

Sometimes the psychosis begins with a stage of sorrowful depression. The patients are causelessly downcast, bemoan their wasted lives and may even attempt to kill themselves. This initial state of depression rarely continues as an outstanding

feature; on the contrary, it usually remains superficial and variable. Very often the sorrowful affect is accompanied by hysterical symptoms, so the inexperienced observer is likely to look upon the trouble as one of hysteria. During the further course of dementia præcox simplex, however, depression and hysterical symptoms fade more and more, the sorrowful affect wanes and the emotional enfeeblement, the psychic dulness and the inattention dominate the situation.

Particularly characteristic in the beginning of a hebephrenia is the combination of depressive and paranoid notions. The patients are sorrowful, but the affect is not deep. They give expression to ideas of sinfulness, claim to have lost all interest in life and want to die. Isolated hallucinations, often indefinite in character, set in. The patients suffer from persecutory ideas, believe themselves to be constantly observed and watched and often think they are being poisoned. Notwithstanding the existence of such suspicions a paranoid character does not develop. The patients speak of their delusions in an unemotional manner and even take their food willingly and regularly, despite their depression and their delusions of poisoning.

In still other instances the psychosis sets in more or less suddenly under the guise of a mild state of excitement. The patients laugh inordinately about every trifle. Some giggle and laugh incessantly, are in a persistently elated state, talk a great deal, sing, rhyme, make puns and play all kinds of nonsensical practical jokes. This farcical mood does not last, but is succeeded by a state in which auditory hallucinations of a threatening and vituperative nature are present. The patients become depressed and suspicious, talk of suicide and give expression to delusions of a depressive or sexual paranoid make-up, the absurdity of which reveals the existing feeble-mindedness usually from the very beginning. In some patients the delusions are predominantly religious in character. They see glittering stars, spirits of the dead, celestial beings, etc.; they hear the voice of God, believe themselves glorified and speak in an irrational, preachy manner. Often at a very early period of the trouble nonsensical grandiose ideas, not infrequently the direct result of the patients' hallucinations, set in. In other instances isolated katatonic symptoms, mannerisms in eating and speaking, affectations of various kinds and a preference for the use of im-

posing oratorical phrases, accompanied by facial contortions, dominate the picture. Very frequently in these patients we find silly laughter, arising purely imperatively without any recognizable motive and directly characteristic of their demented state.

In all forms of simple dementia præcox, whether it begins as an almost symptomless process, as a simple depression, as a depression with paranoid notions or more acutely with excitement, the further course of the disease always is marked by an increasing devastation in the emotional sphere, by apathy, loss of interest and an enfeeblement of the judgment and will. Rarely, however, is there any pronounced disturbance of orientation and reasoning. Hence, the consciousness remains unobscured, even in those cases which take an acute and subacute course, and in which delusions and hallucinations predominate; but orientation regarding the patient's surroundings is often disturbed by delusional misinterpretations. Some juvenile dements will interpret their surroundings in a paranoid sense, believing themselves to be confined in a prison and surrounded by enemies. At the beginning of the psychosis they will realize that they are sick or, at least, that they have a more or less marked feeling of illness. Patients know that their condition is different from what it was, that their will power is becoming more and more enfeebled, and some of them seem vaguely to comprehend the fate that awaits them. They complain their heads are hollow, that their brains are like sieves, that they are going insane and cannot be cured. Later these notions become less frequent and when the patients do speak of them their words are uttered in an unemotional, unmeaning manner.

The memory for the distant past often suffers but little or not at all. Patients even after years of illness possess an astonishing store of knowledge acquired in school and are able to give a correct account of the happenings of their previous lives, even when certain events are delusionally and weak-mindedly misinterpreted. On the other hand, the memory for recent events suffers progressively from the very beginning of the psychosis, this being due above all to the gradually increasing diminution of attentiveness. The perceptional and apperceptional power is in general undisturbed. As these patients no longer take interest in anything, and as the emotional proc-

esses that in the main determine the faithfulness of memory lie fallow, all new impressions pass by without arousing new feelings or creating new thought processes. The patients' power of judgment in some cases is manifestly diminished, often very early. This becomes more evident when they are confronted by unexpected problems or by an alteration in their circumstances of life. Consequently it will be found most difficult to train juvenile dements to even the most simple physical work; but when so trained they will be untiringly active in a purely automatic way. They are not capable of any independent bodily or mental work, and are entirely unable to carry on a connected conversation, even upon a topic relating to occurrences in their past lives. They are often extraordinarily credulous, may be made to believe the greatest absurdities and are gullible in the extreme. Their stunted emotional life manifests itself plainly when they are visited by friends or relatives; on such occasions they show little or no interest in the visitors, but at once greedily devour the sweets brought to them. In a more advanced stage of the dementia, eating and drinking constitute the patients' sole interest in life. Many develop an actual voracity and become fat and bloated. The final stage of the disease is marked by a total lack of mental activity. The patients are stolid and unconcerned and lead a purely vegetative existence. Now and then this is interrupted by a short period of silly excitement or by some impulsive outbreak in which they will break a window, hurl some object across the room or strike any person within reach. Often they soil themselves by uncontrolled evacuations.

In the beginning of the psychosis their speech usually shows no derangement. Even in the later stages of the disease complete disconnectedness of speech is unusual, but upon the other hand play upon words, silly remodeling of words and construction of new ones, preference for high sounding and foreign words, and stereotyped repetition of the same inane phrases are very frequently observed. The written productions of these patients correspond to their verbal ones. These writings are often astonishingly careless and unclean in appearance and the contents plainly show the condition of the patients' minds. The handwriting is sometimes katatonically altered, disfigured by

numerous extraordinary flourishes and characterized particularly by innumerable senseless interlineations.

The patients' posture is usually a relaxed one, with head bent forward, the arms swinging loosely to and fro, the gait unelastic and often dragging; the entire appearance is careless, disorderly and unclean. The facial expression bears the stamp of dementia. The hanging lower jaw, the half open mouth, from which saliva dribbles constantly, the absence of all facial expression, the flattened naso-labial folds, the immobile forehead, the frequent silly laughter, all amply characterize the existing trouble.

The course of the psychosis usually extends over a number of years, until a state of profound dementia is reached. Sometimes the dementia sets in very rapidly, occurring after only a few months of illness. Most often the end stage is represented by a state of apathy in which the patients may appear entirely idiotic. In a small percentage of cases, where the more acute stage of the psychosis has terminated, the disease no longer progresses and the patients' intellectual weakness remains stationary at a level which still permits of their employment in various physical occupations. A small number of hebephrenics recover to a certain degree after a lapse of time, so they are able to return to their former regular occupation, and sometimes they even seem to have regained their previous health. Nevertheless no acquirement other than those which they formerly knew is ever possible. The so-called cured hebephrenics usually fulfil the most unimportant places in the world's work. In them all ambition has been interred. Many succumb in the struggle for existence, as the demands of even normal daily life represent to them an excessive burden under which they must break down. After a period of quiescence, the psychosis again flares up and continues its work of destruction, turning the patients into beggars and tramps and finally landing them in poorhouses or state prisons.

Differential Diagnosis

The differential diagnosis of dementia præcox in its initial stage may involve some difficulty. The true character of the psychosis is often not recognized and a diagnosis of melancholia,

hysteria or neurasthenia is made. Let us again state that there is no such thing as a melancholia in very young people; the states of depression that occur in early life are usually part of a manic depressive psychosis, of hysteria, of epilepsy, or above all, of a dementia præcox. From the point of differential diagnosis we must, therefore, consider the following:

(1) **Hysteria.** Typical hysterical symptoms, contractures, paralyses, anæsthesias, and pronounced hysterical convulsions speak against hebephrenia. The hysterical symptoms occurring in the latter psychosis are for the most part imperfectly developed. The emotional dulness, the inattentiveness and the lack of insight shown by the juvenile dement are in strong contrast to the marked sensitiveness, the exalted emotional outbreaks, the acuteness of observation and the pronounced ability to attract attention by means of simulation that characterize the hysteric. Sense deceptions and delusions usually also speak against hysteria.

(2) **Epilepsy.** Many epileptics suffer from frequent states of depression. Sense deceptions, delusions and katatonic symptoms also occur, and the dementia of some epileptics may be considerable even in their third decade of life. Nevertheless it should not be difficult to differentiate such cases from hebephrenia. In many instances the anamnesis will lead to a correct diagnosis. Moreover the profound disturbances of consciousness and the various epileptic attacks will enable the true nature of the disease to be recognized. The dementia of epileptics involves to an equal extent the memory for recent and for far distant events, while in hebephrenia the knowledge that has been acquired in school usually remains preserved to an astonishing degree. The physiognomy and the conformation of the skull should also be of diagnostic aid.

(3) **Neurasthenia.** The neurasthenic recognizes that he is sick, desires to recover and shows no signs of mental enfeeblement. All pronounced psychic symptoms, such as delusions, states of excitement and exaltation, controvert the diagnosis of neurasthenia. Rest brings relief to the neurasthenic, but not to the hebephrenic.

(4) **Manic Depressive Insanity.** The initial states of depression of hebephrenics may be mistaken for the depressive phases of a manic depressive psychosis. In dementia præcox simplex,

however, the affect is commonly not deep seated and the delusions usually present will aid in arriving at a correct interpretation of the disease. Distinct psychic motor inhibition with vivid fear occurs only in manic depressive insanity. In the latter also the attentiveness is usually undisturbed. The manic states that occur in the early period of a hebephrenia also may be confounded with the manic phase of a manic depressive psychosis, but the silly, puerile stamp of the excitement, the affectation of manner, the mannerisms of speech, the sparseness of original or humorous thoughts, as well as the delusions and emotional enfeeblement, will identify a beginning dementia.

B. DEMENTIA PRÆCOX PARANOIDES

Dementia præcox paranoides is characterized by the prevalence of hallucination and paranoiac delusions which remain present for a long time or persist until the condition becomes one of accentuated feeble-mindedness. In this form of dementia præcox the latter state often supervenes rapidly. According to Magnan the course of the psychosis is as follows:

1—An initial stage or formative period. 2—A period of persecutory delusions. 3—A period of heightened self-esteem (delusions of grandeur). 4—A period of feeble-mindedness (dementia).

Like all other forms of dementia præcox, this one usually begins with a brief initial depression. Then more or less acutely there develops a state of apprehensive excitement in which the patients sigh or pray excessively, behave in a peculiar manner, commit isolated impulsive acts of extraordinary nature and at an astonishingly early stage form delusions of a predominantly paranoiac character. The patients believe they are being watched and observed, think they have been poisoned, and soon there exists a fully developed persecutory psychosis, replete with nonsensical fantastic delusions. The patients will believe that all they say is being counteracted by means of hypnotic influence; that their brains are being drained away by mechanical means; that their thoughts are being read by some magical process; that their intestines are being removed and rubber tubing inserted in their stead; that the world has been entirely changed, the clocks are all wrong, everything is but

deceit and trickery. The delusions are accompanied by innumerable sense deceptions, hallucinations of hearing and of general sensation being particularly frequent. Often the patients hear their own ideas announced in loud tones. During these initial hallucinatory phases they may show the utmost excitement. They pray for mercy, for relief, for poison or for a quiet death, show a marked tendency to self-destruction and often commit dangerous attacks upon others. In marked contrast to the existing delusions and vivid sense deceptions, the orientation of these patients, their power of reflection and their appreciation of the surrounding world remain generally well preserved.

As the psychosis progresses the excitement dwindles. Single katatonic symptoms, mannerisms of movement and speech, slight negativism and traces of automatism become manifest here and there and ultimately ideas of grandeur are noted. These are usually of an extravagant adventuresome nature, are constantly changing and are of a nonsensical character closely resembling those of paresis. The patients believe themselves to be great warriors, reformers, potentates; they lived centuries ago in the form of characters renowned in history. With the onset of expansive delusions, the state of apprehensive excitation gives way to a feeble-minded euphoria or an exuberant joyousness. The patients adorn themselves with fantastic clothing, wear decorations and medals and conduct themselves in a ridiculous imposing manner. The paranoiac delusions persist and become intertwined with the notions of grandeur. Hypochondriacal delusions are rarely wanting and, like all other delusions, bear an impress of feeble-mindedness from their very beginning. Confabulations of the most extraordinary kind are frequent. Little by little the characteristic picture of juvenile dementia stands out upon the paranoiac background. The delusional edifice becomes monotonous and unproductive, the delusions themselves become indistinct and confused, the patients become dull and an increasing erraticism tends to monopolize their psychic existence. Outwardly they remain fairly attentive and self-controlled, answer simple questions correctly and are oriented at least to the extent that their conception of the surrounding world has remained uninfluenced by delusions and by a false recognition of the persons about them.

The memory store from previous times, especially the knowledge that has been acquired in school, remains astonishingly well preserved. Grimacing and continuous demented laughing are of frequent occurrence. The speech of these paranoid juvenile dements is confused, interspersed with indistinct notions of grandeur and persecution and not infrequently characterized by nonsensical stereotyped modes of expression. Their writings bear the same stamp and are usually replete with fantastic nonsense. Very characteristic are certain new word constructions. Some patients employ these to such an extent that they constitute almost a special language. The end stage of this affection is a more or less deep dementia. Some cases eventually show a certain systematization of their delusions, so that their similarity to a paranoia may become very pronounced. But even then the fantastic and nonsensical guise of the delusions and the rapid onset of the feeble-mindedness show us that we must be dealing with a juvenile dementia.

The variety of the delusional edifice has led to a further subdivision of the paranoid form of dementia præcox. Thus we read of a physical persecutory mania, of a mania of obsession, etc. Patients in the former class are tortured by manifold sensations and hallucinations in the inner organs of the body, the skin, and the sexual apparatus, which they interpret in the most fantastic paranoid manner. They maintain they are being pricked with pins, tortured by means of electric currents, chloroformed, rendered unconscious and sexually abused, that their intestines are being twisted and turned, their semen being drawn off, etc. In the mania of obsession these tortures are ascribed to demonic influences. The latter of course is but rarely encountered in this enlightened twentieth century. In the middle ages it played an important rôle and furnished the witch persecutors and their fire heaps with many a sacrifice. In this mania of obsession or possession, the patients' enemies and persecutors are supposed to inhabit the human body in the form of some evil spirit or in that of the devil himself. In the one instance therefore the patients believe themselves to be persecuted by natural enemies, in the other by extraterrestrial ones.

Differential Diagnosis

The differential diagnosis of the paranoid form of dementia præcox will have to be made from the following:

(1) **Hallucinatory Confusion.** The initial stages of paranoid dementia præcox when accompanied by marked hallucinatory excitement may be remindful of an hallucinatory confusional state. The distinction between the two conditions should always be made, if possible, on account of their totally different course. In our consideration of hallucinatory confusion we shall take up this question in greater detail.

(2) **Paranoia.** The differentiation between dementia præcox paranoides and paranoia itself should be made in every case. The reader is referred to the chapter on Paranoia for a consideration of this question.

(3) **Dementia Paralytica.** Inasmuch as a dementia præcox paranoides usually does not develop until toward the third decade of life, it may, when in its expansive delusional stage, be confounded with dementia paralytica. The retention of the knowledge that has been acquired in school and of good arithmetical capability count against paresis, while the presence of somatic symptoms, such as pupilary rigidity, speech disorders, etc., is an evidence of the existence of the latter disease. A history of syphilitic infection or a positive Wassermann serum reaction of course also creates a suspicion of paresis.

C. DEMENTIA PRÆCOX KATATONICA

While dementia præcox paranoides is characterized by a prevalence of hallucinations and delusions, the importance of these sense disturbances in dementia præcox katatonica is as small as it is in dementia simplex. It is true they may often be present in the katatonic form, but they are always of subsidiary moment, occurring episodically and usually disappearing completely as the dementia increases.

Dementia præcox katatonica is a dementing process characterized by numerous katatonic symptoms. States of excitement with endless repetition of senseless words, stereotyped movements and impulsive bizarre acts, alternating with manifest stupor, mutism and muscular tension, negativism alternating

with an abnormal augmented suggestibility—these constitute the chief characteristics of this prognostically hopeless psychosis. Its occurrence is less frequent in men than in women, and in the latter it sets in most often during the puerperium. Usually it commences in very much the same manner as dementia præcox simplex. Vague nervous symptoms appear first, then sense deceptions and delusions of all kind, particularly of a religious nature, with occasional katatonic symptoms interspersed. The latter consist of stereotyped postures and movements, abnormally prolonged innervations of the muscles of the face, tension of the body muscles and nonsensical remarks of the most extraordinary nature. These all are among the early symptoms of the disease; but in a short time the katatonic symptoms become more and more numerous and phases of true katatonic excitement alternate with states of stupor. Then the picture of the disease is fully developed. In a small proportion of cases the katatonic symptoms set in without any preliminaries.

When the katatonic form of dementia præcox is at its height, its manifestations are of the most varied kind. Some patients present a symptom complex of katatonic stupor, arising suddenly or very gradually from the preceding state of excitement. When it develops gradually the patients become more and more taciturn; at first their words become almost inaudible, then they merely move their lips and utter no sound, and finally they sink into a state of complete mutism. Other manifestations of negativism usually make their appearance coincidently with the mutism. The patients refuse nourishment, remove their clothing, crawl under the bed or insist upon occupying the beds of others and oppose every attempt to induce them to alter their actions. At the height of the stupor the muscles of the body are in a state of persistent tension or else passive movement of a limb causes the antagonists of the muscles acted upon to contract.

The lips are often considerably protruded, the physiognomy empty and masklike, all play of features extinct and sometimes a stereotyped or entirely irregular mimicry is observable. Fingers and thumbs are usually clinched or else show the most extraordinary postural contrasts. The patients are entirely reactionless, soil themselves with urine and feces and must be fed. Deep pricks with a needle bring forth no manifestation

of pain. The eyes are sometimes closed and sometimes wide open with very infrequent blinking of the lids. It is at this phase of the psychosis that we may observe those bizarre theatrical postures which are so characteristic of the katatonic patient and which often persist for months or even years. At times sudden impulsive acts unexpectedly interrupt the stupor. In some of the patients a state of katatonic excitement is maintained for a long period of time. This usually sets in quite abruptly in the course of a deep stupor and is characterized by stereotyped manifestations, by impulsive nonsensical actions, by signs of negativism and mannerisms and by an excited speech made up of persistent repetition of senseless words and in many ways analogous to that encountered in flight of ideas.

The patients dance and jump about, often repeating the same bizarre theatrical movements again and again; or else they rock themselves rhythmically to and fro, assume theatrical postures and destroy their clothing, the bed clothes or anything that comes within reach, oppose every attempt to keep them clean, constantly repeat the same often senseless phrases in a monotonous affected manner, soil themselves with feces, wash themselves with their urine, suddenly attack the doctor, the nurse or bystander in order to pull his hair or tear his clothing, or overthrow the furniture, smash the dishes or strip the pictures from the wall. Frequently marked sexual excitement that finds an outlet in shameless masturbation or obscene phrases is also present.

In some cases the excitement bears the stamp more of a pathetic ecstasy. The patients are in a constant state of pose, gesticulate in a theatrical manner and give vent to a katatonic rhetoric that is characterized by high-sounding words, consonant phrases, new formations and transformations of words, nonsensical rhymings and persistent repetition of the same utterances. Sometimes the most ridiculous trivialities are put forth with a pronounced emphasis and gesticulation.

In certain instances the excitement may be similar to that of maniacal exaltation; but the similarity is superficial for, combined with the joyous mood and the intensified motor and verbal excitement of the maniacal patient, we here clearly note a foolish underlying tone, mannerisms and stereotypy, a preference for word distortions and other mannerisms of speech.

The course of the psychosis is almost always a changeable one, states of katatonic excitement alternating with states of depression; yet the sequence of the individual phases follows no definite rule. Manic states of the most irregular kind accompanied by katatonic gesticulations and rhetorical outbursts may be followed by causeless depression and negativism; wild excitement with nonsensical acts may be succeeded by shameless masturbation and the use of vile language; deep stupor with muscular rigidity or *flexibilitas cerea* may be followed by a mild state of excitement with rhythmical verbigerations; a phase of pathetic ecstasy by completely disconnected declamations or by a short remission with apparent mental lucidity.

Remissions lasting for hours, days or even weeks constitute a noticeable and characteristic symptom. Patients who have lain in a state of stupor, or who have been jumping about in a katatonic disorderly manner, suddenly become orderly, give correct answers and often show marked insight into their own condition. Usually, in such cases, however, a recurrence takes place quite as rapidly and abruptly, and in the course of a year to a year and a half dementia sets in. The patients become more and more stupid, the picture of disease more monotonous and definite katatonic symptoms permanently fixed. In one patient mild excitement with constant repetition of the same phrases will predominate, in another stereotyped movements recur unendingly, in still another complete absence of reaction gives its stamp to the condition. Many patients sink into a state of deep dementia, interrupted occasionally by dangerous violent outbreaks of excitement. In others katatonic mannerisms fixate themselves in certain definite ways, so that the patients attract attention by their manner of walking, eating, saluting, etc. Even after the lapse of many years these katatonic mannerisms will at a glance reveal the original character of the psychosis which meanwhile has made the transition to a deep dementia.

In still other patients there develops a clownish feeble-minded behavior. Such patients, as a result of their great suggestibility, manifest an enormously exaggerated tendency toward mimicry. In many katatonics this imitative impulse attains such a height that everything done or said in their presence is copied or repeated. If, for instance, the examiner places his left hand upon his hip or the palm of his hand upon his head or cuts a

grimace the patient will repeat the movement with the accuracy of an automaton. Some katatonics will follow an attendant about the grounds for hours, stepping in each footmark he has made, standing still when he stops, sitting down when he seats himself, and, in short, repeating all his movements with utmost precision. In so doing, they often caricature grotesquely the manners of their model, even attempting to copy his mode of speech.

The diagnosis of dementia præcox katatonica is based similarly upon the characteristic symptoms of juvenile dementia—that is, emotional enfeeblement and loss of will power with a relative preservation of consciousness and orientation—and upon the katatonic signs present. In many cases the patient's writings will serve to establish the diagnosis. These are characterized by the same peculiarities that give their impress to the katatonic manner of speech, a tendency toward the employment of high-sounding phrases, a constant repetition of the same words, a senseless alignment of letters, words and sentences, underscores, new word formations, bizarre flourishes, fantastic drawings, etc.

Differential Diagnosis

The differential diagnosis must be made from the following:

(1) **Mania.** The manic states of excitement encountered in dementia præcox katatonica may be confounded with true mania. An attempt to converse with the patient will ordinarily clear up any doubt that may exist. The maniac may easily be made to keep to a certain topic of conversation, and gives correct, pertinent answers which he usually elaborates in a flighty way; he may also be easily diverted from the subject. The katatonic patient, on the other hand, is negativistic; he either does not reply at all or else gives irrelevant answers. His attention can be concentrated only with difficulty and his interest cannot be held. The flight of ideas of the maniac cannot be confounded with the senseless vaporings of the katatonic. The expressional movements of the maniac, while abnormally vivacious, are natural and understandable, inasmuch as they accord with the predominant emotional tone. On the other hand the expressional movements of the katatonic are exaggerated, bi-

zarre, and are not related or bear an inverse relationship to the ruling affects. Thus, for instance a katatonic while uttering hypochondriacal plaints and expressing delusions of the most painful nature will smirk and smile without cessation.

(2) Dementia Paralytica. Katatonic symptoms are not infrequently observable in paresis, but in this disease are usually isolated ones and do not bear the extraordinary diverse and manneristic character of the katatonic. Moreover, they usually occur in paresis only after the process has already made considerable progress and the presence of physical symptoms such as pupilary rigidity, etc., leaves no doubt as to the proper diagnosis.

(3) Hysteria. In many katatonics, especially in the very early stage of the psychosis, hysteroid symptoms, hysterical convulsions, etc., may occur. The presence of characteristic traits of juvenile dementia, however, will assure us we are not dealing with a hysteria.

(4) Epilepsy. During the twilight states of epileptics, catalepsy, stereotyped movements and verbigerations are not infrequently encountered. The profound disturbances of consciousness, the difficulty of comprehension, the apprehensive confused or ecstatic facial expression, the marked monotony of the automatic movements, which usually do not bear the impress of incongruity and artificiality, and the blind acts of violence, will differentiate the epileptic patient from the katatonic.

(5) Katatonia. See the description of katatonia in the following section.

Forensic Aspects

The number of offenses against law and order that may be the product of precocious dementing processes must be evident from a perusal of the foregoing matter. The unrecognized inadequacies of such individuals lead to constant troubles in every position of life requiring an appreciation of order, punctuality and discipline.

As Huebner very appropriately says, "If we would appreciate the aid and protection that sufferers from dementia præcox require, we must observe them not only in institutions but in every-day outside life, and note how aimlessly they go about,

disorderly clad, annoying people and authorities, following no productive occupation, making purposeless purchases, attracting attention by their conduct, having differences with others, and occasionally even being dangerous to their surroundings."

In addition, however, the confusion and excited states may lead to all kinds of silly and senseless acts, as well as to dangerous ones. Homicide, highway robbery, theft, defalcation, fraud and sexual offenses are among the acts commonly encountered. Often in katatonics it is a question of impulsive acts committed without any forethought or apparent motive, but the offenses are premeditated and well-considered.

D. Katatonia

Katatonia is preeminently a psychosis of early age. About three-quarters of all cases begin before the thirtieth year and the majority terminate in feeble-mindedness or dementia. No sharp dividing line can be drawn in this regard between katatonia and dementia præcox katatonica. Both psychoses differ so little in their clinical manifestations that it is hardly possible, when a marked katatonic symptom complex is present, to determine whether the patient is afflicted with dementia præcox katatonica or with katatonia. As a matter of fact, Kraepelin looks upon katatonia as a form of the juvenile dementing process and hence classifies it among the precocious dementias.

Nevertheless it is necessary, following Kahlbaum, to dissociate certain cases of katatonia from the katatonic form of dementia præcox described in the preceding chapter and to classify them in a special category. These cases of katatonia are characterized by their totally different course. Whereas the prognosis of dementia præcox is always bad, a considerable number of Kahlbaum's katatonia cases end in complete recovery. Hence it is essentially the course of the psychosis and the result reached that enable us to tell the difference between dementia præcox katatonica and katatonia.

According to Kahlbaum, katatonia is a disease of variable course, in which the psychic symptoms present a serial picture of melancholia, mania, stupor, confusion and finally dementia. One or other of these symptoms, however, may fail to set in. Associated with the psychic symptoms, manifestations on the

part of the motor nervous system bearing the general character of spasms are observable.

In true katatonia we encounter all the symptoms that have been described as occurring in dementia præcox katatonica—in the beginning depression with notions of sinfulness, followed by hysterical symptoms, especially hysteroid spasms, by confused delusions of a hypochondriacal paranoid and expansive nature, by phases of peculiar religious ecstasy and katatonic maniacal excitement with pathetic gesticulations, verbigerations and speech mannerisms, with imitative impulses, flexibilitas cerea, and a tendency to impulsive acts of violence. The duration of the affection is rarely more than one year. Nearly all katatonic cases that last more than one year end in dementia, and when they do they should be classed as dementia præcox katatonica. Very few cases recover after the lapse of one year. On account of this uncertainty of outcome, no definite prognosis should be given in katatonic states until at least a year has elapsed.

It is precisely in this katatonic process of disease that we encounter conditions which ultimately make for recovery notwithstanding that they bear the guise of profound dementia. Katatonics who are completely stupid and expressionless, who vegetate in a continuous stupor and who pass feces and urine without control, are probably demented, but after all it is possible that they are not. Whether they belong in the class of dementia præcox katatonica or in that of Kahlbaum's katatonia, can be determined only by the course and outcome of the psychosis, as we have already said. While, therefore, a delimitation cannot be made before dementia has definitely set in, we can with a fair amount of certainty assume that almost all katatonic psychoses that develop in women during the puerperal state present an unfavorable prognosis, and therefore should be classed as cases of dementia præcox katatonica.

3. Acute Hallucinatory Confusion

Acute states of hallucinatory confusion often occur upon an epileptic basis or in infectious diseases. Delirium tremens may be looked upon as an hallucinatory confusion upon an alcoholic basis. In a restricted sense, however, only those cases are to

be classed as hallucinatory confusion in which epilepsy and alcohol or other intoxication may be excluded. This includes those cases that have been designated as exhaustion delirium and those in which the symptoms are more pronounced in character, as delirium acutum. It is advisable, however, to designate these states according to the psychic symptom complex they present, inasmuch as exhaustion plays an etiological rôle only in some of the cases. True hallucinatory insanity, in this restricted sense, is a psychosis of infrequent occurrence. It is inaugurated by a sharp initial stage. The patients become restless, sleepless and apprehensive, show marked emotional changeability, laugh and cry simultaneously and become confused. All the symptoms are rapidly augmented until the acme, characterized by the following chief symptoms, is reached:

(1) Complete or Marked Confusion Exists. The facial expression of itself leads us to recognize the existence of some serious stuporous state. The eyes are lusterless and, though they manifest an occasional gleam of interest, they waver unsteadily like those of an intoxicated person. The face is sunken, sometimes pale, sometimes congested, sometimes apprehensively distorted; occasionally traversed by an expression of tortured fatigue, or again by an expression of complete indecision. The patients are in a dream-like state and their attention can be riveted only with difficulty. They do not know where they are, answer the simplest questions incorrectly and frequently misconstrue their surroundings in the most incredible way. They observe what is taking place about them but all sensory impressions are incompletely and falsely assimilated. They are no longer able to think clearly; everything appears to them enigmatical and incomprehensible. They are unable to understand even the most simple occurrences and some of them complain that everything seems peculiar, false and changed. The entire state is a kind of drunkenness or stupor, with disorientation, confusion and difficulty of comprehension.

(2) The confusion is accompanied and augmented by innumerable sense deceptions, particularly by delusions of hearing and sight. At one time the patients hear themselves being scolded and threatened, at another they have visions of heaven and the angels welcoming their arrival. They see wild animals, mystical birds, horrible spirits, demons, etc.

(3) In consequence of these sense deceptions there arise numerous confusional unrelated delusions that follow rapidly one upon the other and constitute a variegated mixture of paranoid and depressive, or occasionally of hypochondriac and expansive ideas. The patients usually talk in a disconnected, flighty and barely comprehensible manner; they scream, laugh, scold, weep, and manifest their chaotic delusions by a voluminous outpouring of words.

(4) The disease receives its impress from the presence of a marked motor excitement best designated as psycho-motor confusion. The patients are in a constant state of unrest, throw themselves from one side to another, remove their clothes, jump about, try to run away, strike and bite, and exhibit an unceasing flow of purposeless convulsive movements.

(5) Generally the psychosis becomes complicated by a series of bodily disturbances. The pulse is accelerated, the temperature rises, the tongue becomes dry and coated, the lips and angles of the mouth are covered with an inspissated dirty saliva and not infrequently albuminuria is present. Often urine and feces are passed involuntarily. The severe cases of acute hallucinatory confusion are designated as delirium acutum and usually end fatally within a few days. They are accompanied by high fever, usually of more than 104° F., and by symptoms of increasing exhaustion and irritation which are remindful of meningitis. Among the latter are persistent contraction of the pupils, strabismus, muscular twitchings, and a lolling, stuttering speech. Other cases terminate in recovery, all the symptoms gradually passing away during the course of three to four weeks, or in exceptional instances, in the form of a crisis.

Differential Diagnosis

The differential diagnosis must be made from the following:

(1) **The Delirium of Fever and Infections.** These states rarely last longer than one week and disappear as soon as the fever has passed away. During the course of the deliriums free intervals often take place; they occur particularly with remission of the fever. Delusions are infrequent and scattered, attacks of psycho-motor confusion usually slight and not of long duration. The diagnosis of the existing infectious disease (scar-

let fever, pneumonia, articular rheumatism, typhoid, etc.) determine the diagnosis of the psychosis.

(2) **Alcoholic Intoxication.** Delirium tremens is a psychosis so well characterized that its differentiation from hallucinatory confusion can hardly ever cause any difficulty.

(3) **Epilepsy.** The differential diagnosis between epileptic twilight states, perhaps accompanied by albuminuria and fever, and hallucinatory confusion may be difficult or even impossible. Sudden impulsive acts, monotone movements, the absence of physical signs of exhaustion, the changeable depth of the clouded consciousness and the absence of psycho-motor confusion speak for epilepsy. The anamnesis is of course important.

(4) **Dementia Præcox Paranoides.** Frequently the states of apprehensive excitement that are present in the beginning of a dementia præcox paranoides are confounded with hallucinatory confusion. Aside from the fact that the former is a chronic psychosis, usually rapidly leading to dementia, while the latter presents a very favorable prognosis, the following points will serve as characteristic marks of differentiation: In dementia præcox paranoides, notwithstanding the mass of sense deceptions and delusions, there is present in the initial stage a high degree of orientation, while on the contrary in acute hallucinatory confusion a marked clouding of consciousness and entire disorientation exist. Furthermore, the former is characterized by the existence of purposeful movements, while in the latter the motor impulses are ungoverned and undirected. Finally, the conduct of the paranoid sufferer is comparatively orderly, while that of the hallucinant is characterized by confusion and exhaustion.

(5) **Mania.** Maniacal exaltation, when the motor and verbal excitement is at its height, may bear great similarity to hallucinatory confusion. In mania, however, hallucinations are infrequent and are isolated occurrences, the patient's comprehension of his surroundings is but slightly disturbed, the motor unrest is orderly and controlled in comparison to the inordinate motor agitation of the patient suffering from hallucinatory confusion. True flights of ideas, of course, speak for mania. In the latter disease the emotional tone also is usually a more equable one and differs from the constant change of emotions

met with in hallucinatory confusion. Besides, the physiognomic expression of the maniacal patient is beaming and ecstatic.

(6) Katatonia. Katatonic excitement as a rule can be differentiated usually from hallucinatory confusion, in which katatonic symptoms but rarely occur. The deeply clouded consciousness, the disorientation and the signs of physical exhaustion in hallucinatory confusion are in marked contrast to the astonishing collectedness and orientation of the katatonic.

4. Hallucinatory Insanity

Delusions arising essentially from hallucinations are observed in many psychoses, particularly in acute alcoholic insanity, cocaine intoxication, epilepsy, and not infrequently in dementia paralytica. Even in paranoia, intercurrent hallucinatory excitement may cause the production of new delusions. All these instances having been eliminated, there still remains a small number of psychoses which must be looked upon as a special, although uncommon state of disease.

"Hallucinatory insanity," therefore, is a purely symptomatic designation, just as is the term "hallucinatory confusion." The dominant character of hallucinatory insanity is a delusional structure depending solely upon sense deceptions and which breaks down at once when the sense deceptions cease. If ever, in psychiatry, we are warranted in speaking of primary and secondary disorders, we may do so in true hallucinatory insanity. Here the illusions and hallucinations always constitute the primary disorder, and all other disturbances, particularly the delusions, are secondary.

The disease occurs most frequently in women during the climacteric. Its commencement is acute or subacute and is usually inaugurated by a causeless sorrowful depression, by ideas of sinfulness, and a tendency to suicide—in short, by a state of depression that may be remindful of melancholia. The patient is in a state of more or less vague fear; soon innumerable hallucinations, predominantly of sight and hearing, set in. Threats, vituperative accusations are heard; the patients see flames, apparitions, ghosts and devils. All sense deceptions seem to be signalized by an appearance of actuality and by extraordinary plasticity.

The sense deceptions constitute the starting point for the delusions. These are essentially depressive, paranoiacal and expansive, or, more rarely, hypochondriacal in character. The patients believe the end of the world has come, death and destruction fill the land, all their relatives have been killed. They give expression to ideas of persecution, see the gallows or the electric chair upon which they are to be executed, believe themselves to have been poisoned, etc.; then again ideas of grandeur set in—they believe themselves called to the highest places of honor, believe themselves to be rulers, queens or kings. All these delusions occur in variegated alternation and are never systematized. The patients will always admit having heard these things. The sense deceptions from which the delusions arise are therefore quite as unconnected and changeable as the delusions themselves. The same changeable quality is evident in the emotional tone. Usually it is slightly depressive, but transitorily it is exalted with a religious coloring. The further course, notwithstanding the presence of alarming hallucinations, is often characterized by a noticeable apathy. No disturbance of consciousness of a more pronounced kind is present. The patients are usually clear or merely temporarily confused. They always remain oriented except when their orientation has become affected by pronounced sense deceptions. Their orientation in regard to time is never lost.

The course of the psychosis is broken by remissions during which the sense deceptions, and consequently also the delusions, disappear, and mental clearness with complete orientation exists; at such times the patients are perfectly able to analyze their own delusions. Even during the ascendancy of the hallucinations the patients frequently have complete insight into their condition. We are then able to gather from their talk that they are aware of the falsity of their beliefs and would like to alter them. Sometimes the attitude of these patients regarding their sense deceptions is that of a peculiar state of indecision; they are in constant doubt, beg to be enlightened and demand to be told the truth. The entire picture of hallucinatory insanity is therefore one so characteristic that difficulty in diagnosis should rarely arise. The duration of the psychosis is generally measured by weeks or months. In most instances the prognosis is good. Nevertheless the formation of fantastic delusions may per-

sist and increase, but the hallucinatory origin of these false beliefs can always be demonstrated.

Differential Diagnosis

The differential diagnosis is to be made from the following.

(1) **Alcoholic Insanity.** The acute hallucinosis of alcoholics differs from hallucinatory insanity by the predominance of paranoid delusions, by the partially typical sense deceptions, by the pronounced fear and by the marks of alcoholic intoxication.

(2) **Cocainism.** Acute cocainism can be differentiated from hallucinatory insanity by the predominant development of paranoid delusions, by the presence of typical sense deceptions (visions of very small animals and sensory perversions), and by the absence of remissions. An anamnesis that indicates a poisoning by cocain or by cocain and morphin combined renders the diagnosis certain.

(3) **Paranoia.** Hallucinatory insanity may be differentiated from paranoia by the absence of the paranoid character and by the variegated changeability of the delusions.

(4) **Melancholia.** The affect in hallucinatory insanity is never so stable nor so deeply depressive as it is in melancholia. Moreover in the former all psycho-motor and intellectual inhibition is lacking and manifold delusions are present, whereas in melancholia depressive delusions are persistently predominant.

(5) **Epilepsy.** The states of hallucinatory insanity that exist upon an epileptic basis differ from true hallucinatory insanity by their intensely violent character, by marked apprehensive excitement, by impulsive acts and by more or less pronounced obscuration of consciousness.

(6) **Dementia Paralytica.** Hallucinatory insanity occurring during the course of a dementia paralytica may be recognized by the bodily symptoms of paresis or by the defects of intelligence, memory or moral sense.

5. Paranoia

There is one form of mental disease which distinctly differs from all other psychic disturbances in that the psychic personality stands under the ban of a plainly marked system of

delusions while the formal apparatus of thought remains intact and primary emotional disturbances are absent. This disease is designated as paranoia. An explanation of the nature of this affection was formerly sought in the assumption that the disease represented a second stage of a melancholia or mania of which the emotional characteristics had passed away but which, not being cured, must inevitably lead to dementia.

The primary character of this disease was first recognized by French psychopathologists, and Esquirol chose for it the name Monomania. To-day there is no longer any question that the disease constitutes a special primary form of psychic disorder, nor is there any difference of opinion regarding the symptom complex it presents. Of the symptoms, the system of delusions is the most marked. The fundamental principle of the paranoiac's delusions is that he exaggerates the notion of the ego, displacing his own person from its proper objective relation to the outer world. His own person appears to him as the center of attention in his surroundings. Moreover, he finds a special cause for this attention in the imaginary special qualities or in the imaginary special social or other significance of his own person, and as a result this attention becomes a source of annoyance or satisfaction to him. Coincidently this attention may also serve a special purpose, namely, that of tending to restrict or to promote him or his own interests. Similarly, in his opinion, it may be the endeavor of his surroundings to achieve this special purpose by means of pertinent acts. This exaggeration of the ego differs in intensity in different cases of paranoia, or in the same case at different times or under differing circumstances; it may be boundless or may keep within certain limits, the latter to such an extent that to the superficial observer the confines of health may seem not to have been overstepped; often it expresses itself in a few precise directions, often in many general ones. Always, however, and even when the delusions exist in but limited intensity and extent, the psychic personality as such is diseased. The psyche is an indivisible entity, and nothing could be more false than to conclude from the fact that the disease manifests itself only in certain special directions that only a certain part of the psychic personality is diseased. It is also self-evident that the circle of persons whom the patient brings into relation with himself may

be extremely restricted or infinitely extended and may include persons who are entire strangers or even entirely imaginary.

Hence to a certain extent it becomes manifest that in paranoia we are dealing with a systematization of delusions. With the ego as the point upon which the attention and the conduct of the surrounding people and things are concentrated, a principle is established which is capable of logical elaboration; and, as a matter of fact, it is upon this basis that the patient builds and extends his delusional structure. The conditions and things that objectively controvert his delusions signify nothing to him, for he either ignores them or transmutes them so they exist not as an obstacle but rather as an encouragement to his views. The predominance of his ego is, so to say, the supreme article of faith to which everything else must become subservient. This transmutation, falsification in many instances, extends also to the happenings, to the experiences of the delusion-free past—in other words, former experiences become so falsified that they can be made to serve as a foundation for actual delusions.

A further point of vantage for the systematization lies in the circumstance that the attention or the comportment of the people about him act upon the paranoiac either depressingly and inhibitorily, or exaltingly and encouragingly. Whatsoever enters his delusional sphere, no matter how indifferent it may be, becomes transmuted into an inhibitory or an encouraging factor. This is the cause for a sharp typical dualization of the disease, namely, into paranoia with the notion of restrained interests, and paranoia with the notion of promoted interests. That the delusions may become strictly systematized is possible only because the formal thought mechanism of the paranoiac remains intact. In formal judgment and conclusions he does not differ from a person in health, but this does not hold true as to the premises for judgment and conclusions. It is only these premises that are established and affected by his delusions; the manner of their elaboration accords with the formal laws of logic.

While it is true, as stated, that there is an absence of any primary disordered affect in paranoia, it is self-evident that affects as such occur in this disease, for the paranoiac may be depressed, exuberant or angry just like a well person who reacts naturally to concepts, whether correct or false.

The chronic progressive delusional edifice with its corresponding alteration of character must be looked upon, however, as the psychological nucleus of paranoia, while all other symptoms are of comparatively minor significance. Paranoia in this classic restricted sense is not of frequent occurrence. It is a psychosis that develops between the twenty-fifth and thirty-fifth year of life, most frequently around the twenty-eighth year. The commencement of the disease is usually vaguely defined and is characterized by the occurrence of all kinds of indistinct complaints, often of a neurasthenic nature; the patients become depressed without cause, give voice to self-accusations, to ideas of sinfulness and manifest a desire to end their lives. These symptoms, remindful of a melancholia, soon become complicated by others which enable us, often very early, to diagnosticate the presence of a hopeless paranoiacal process. The patients become timid and suspicious, withdraw from their friends and relatives and express all kinds of vague fears. Soon the alteration of character becomes more pronounced. Ideas of depreciation set in, the patients believing themselves to be unjustly treated, neglected and slighted. They become quiet, unresponsive, egoistic and distrustful. The onset of isolated auditory hallucinations encourages the formation of delusions. The words and conversations of the people about them seem to the patients to contain taunts and jeers, vilifications and threats. Then the existing delusion of depreciation has been augmented by that of reference. The most harmless words and gestures seem to the patient to contain insinuations and insults; every cough, every sneeze, every expectoration takes place on his account. The transition from this state to that of actual delusion of persecution is established by the delusion that he is being observed. Day and night he is given no rest, everywhere he is followed by spies who are controlling all his words and acts. The patient now becomes more and more irritable, more curt and taciturn, is driven to and fro by a constant state of unrest and manifests—often toward his nearest relatives —a threatening, inimical demeanor.

The stage of initial depression is followed by one of outstanding persecutory delusion and by the development of a typical paranoiac character. The idea that he is being persecuted gives the patient a logical explanation for the sharp ob-

servation to which he is supposedly subjected or for the general attention he believes he is receiving. He is being derided, denounced or slandered and everything is done to make his life unendurable. Wherever he appears all kinds of disagreeable insinuations are made, and every occurrence refers to him; the children on the street point accusing fingers at him, dishonoring remarks are made about him in the theater, in the newspapers and in church; everywhere he is surrounded by enemies who lay in wait for him and spy upon him. It is clear he is the victim of a conspiracy. His food he takes only after he has carefully tested it, for he fears an attempt is being made to poison him.

Little by little the delusion of persecution takes a more definite form; there becomes established an unshakable delusional system which completely transforms the patient's personality and alienates his view of life from that of his companions; his deeper and inner life becomes dominated by his delusions and he is occupied solely with his own self and his pathological ideas. His own personality becomes the center around which all his thoughts revolve. So long as the delusion of persecution is not complicated by ideas of grandeur, every thought refers to the inimical relations the surrounding world bears to the patient's own body. Every part of his body may in turn become the object for attack by these inimical influences. His thoughts are being drawn from him, he is being benumbed by electric or magnetic currents, his food is being contaminated or poisoned, etc. His enemies give him no peace, his life, his honor, his position are constantly being endangered; he is a lonesome man, an exceptional man, against whom the rest of the human race has conspired, and for this reason he must be alert and watchful in order to protect himself.

All these delusions become reinforced by hallucinations, which, however, are sparse and of subsidiary import. Most typical is the association of hallucinations of hearing with hallucinations of body sensation. Hallucinations of smell and taste also occur, however, and nearly all of these have a paranoiac impress. Especially characteristic is the patient's delusion of hearing his own thoughts expressed. Not infrequently the paranoiac delusion is directed against the conjugal partner and manifests itself in the form of jealousy. The patient accuses his marital

associate of infidelity, believes he perceives his rival in or under the bed and no longer acknowledges his children as his own. The number of persecutory ideas that may be encountered in such patients is legion. Almost every paranoiac has his own special system of delusions which he elaborates in a more or less intelligent and fantastic manner. From the moment he believes he has discovered the source of his persecution, he becomes a public menace. While he previously may have been satisfied with complaints to the authorities regarding his supposed grievances and with requests for legal protection, he now is likely to take matters into his own hands. The persecuted man becomes transformed into a persecutor. Public abuse, bodily injury, homicidal attacks and homicides are among the delicts that paranoiacs commit during the stage of persecutory delusions, and it is this fact that stamps the patients as most dangerous members of society. Often the existing trouble is not recognized until some such overt act has been committed. For that reason the early diagnosis of the trouble and the internment of the patient in an institution before the delusion of persecution reaches so dangerous a stage are most important.

After the psychosis has existed for a long time, usually only after a period of years, the expansive delusions that signalize the third stage of the disease set in. These generally lead no further than to an exaggerated self-esteem, particularly in patients whose intelligence has been of a high order and has remained more or less unaffected during the progress of the psychosis. Highly characteristic of such patients is a pronounced tendency to inventiveness. They often busy themselves with all kinds of problems in mechanics and other sciences, and not infrequently create astonishment by the remarkable originality of their constructions. Often, however, they develop a pronounced delusion of grandeur and this usually proclaims the onset of mental enfeeblement. Most paranoiacs of this kind are easily recognizable by their theatrical demeanor, by their condescending, disdainful facial expression, by their imposing gestures and by their love for decorations and medals. Apparently the notions of grandeur of the later periods of paranoia do not appear until after the abatement and disappearance of the numerous annoying sensations to which the paranoiac is subject during the stage of persecutory delusions. The grandiose de-

lusions, like the persecutory ones, are systematized and influence the patients' emotions and actions. Often the ideas of grandeur are intimately bound up with ideas of persecution. The patients believe themselves to be most important personages; they control the rising and the setting of the sun, of the stars and of the moon; they possess divine power and by a motion of the hand can annihilate thousands. Thus they pass their time in a state of radiant bliss looking down with contempt upon the rest of miserable humanity.

Certain varieties of paranoia must be especially mentioned. Of particular interest in this work is the litigious form. This usually originates in consequence of the loss of some lawsuit. The patient firmly believes his side of the case to have been the right one; he becomes entirely inaccessible to all argument, and it is impossible to convince him of his error; notwithstanding the most careful explanations and demonstrations his views remain fixed and unalterable. The delusional character of his belief that he has been unjustly treated by the law and by the court is shown by its incorrigibility. Soon this idea dominates the patient's entire life. He becomes unalterably convinced that the judges have been bribed; he suspects the lawyers and witnesses of having conspired against him and he is likely to carry the fight for his supposed rights through all the courts. Often the correct diagnosis is not made until the litigant has sacrificed his fortune, has reduced his family to poverty and has failed repeatedly in his senseless legal contests.

There is an extraordinary resemblance in action among all such litigants. Some of them study the statute books so carefully that they are able to cite entire pages, word for word; their memory as a rule is astonishingly acute for everything connected with their delusions and they are able to argue dexterously and logically. Nearly all of them show the same typical discursiveness and prolixity in writing, and they all have a special, peculiar style which gives their numerous writings a characteristic impress. In consequence of their insulting manner toward judges, lawyers and witnesses, in consequence of their threats and their open resistance to orders they consider unjust, they are in constant new conflicts with the law. The disease usually runs into a marked degree of intellectual weakness.

Another form of paranoia is that characterized by a beginning of the delusion in early childhood, and in which there is a preponderance of the idea that the patient is not the child of his own parents but is of noble birth. It is in the light of this belief that he henceforth views his entire life. Patients thus afflicted regularly maintain that since childhood they have been treated in a remarkable manner, either on account of envy or malevolence. Such statements, made later in life, may be dependent upon subsequent confabulations.

The special forensic interest of the cases just described must be sought in the fact that they lead directly and essentially to conflict with public officials and with the courts. In every estimation of such cases stress must be laid upon the characteristics that differentiate a mentally healthy litigant from an insane one, for it is entirely unwarranted to conclude that a person is abnormal merely because he defends his rights in a stubborn and impracticable way. Nor does the factor of morbid litigation suffice to characterize a case as one of paranoia, for this symptom is also found in other forms of mental disorder.

In some paranoiacs the delusion of grandeur has a dominating erotic character; they believe people in high position and standing to be in love with them and that these people, on account of their social position, are unable to give expression to their affection. Such paranoiacs often persecute their supposed affinities with insistent verbal and written declarations of love. In these circumstances also temporary notions of persecution may set in and as a result the otherwise harmless patient becomes capable of any act of violence.

In still other paranoiacs the delusions are more of a religious nature. They believe themselves to be chosen emissaries of God, great reformers, etc. Such notions, though causing a feeling of sovereign power, will naturally be productive of a mental arrogance of the most extravagant nature. Inasmuch as such delusional personalities are exempt from all control on the part of their inferior comrades, they may, particularly under the influence of hallucinations and occasional persecutory ideas, commit the most horrible infractions of law and propriety. All such paranoiacs are noticeable on account of their eccentricities of dress.

Forensic Aspects

It must by now be apparent that the forensic relations of paranoiacs are most extended and that criminal offenses, particularly, are common among them. Forcible entry into the dwellings of other people, particularly into those of public officials or well known personages, for the purpose of revenge or protective appeal, are of frequent occurrence, and letters of denunciation, threats, or accusations, at times couched in the most obscene language, just as often give rise to legal complications. Physical injury to others and even homicide are not infrequent, and these are the direct result of the patients' delusions of persecution. Having attempted to help themselves by seclusion, by changing their place of residence, by moving from house to house, by fruitless appeals to authorities they finally take the law into their own hands and attack their supposed persecutors. When such things happen the chief danger for the persons attacked lies in their absolute ignorance of the fact that they are looked upon as the cause of the paranoiac's troubles. On the other hand, the paranoiac is just as likely to inflict severe physical injury upon himself in order to direct public attention to the wrongs that have been done him or the cause which he represents. In all instances in which the existence of a delusional system can be shown, there can be no difficulty in correctly judging the individual case, but where conflicts with the law occur while the affection is still in a formative stage, proof of irresponsibility may be most difficult.

Differential Diagnosis

The differential diagnosis of paranoia must be made from the following:

(1) **Dementia Præcox Paranoides.** In contrast to paranoia, the paranoid form of dementia præcox is characterized by the rapid onset of a more or less marked dementia, by the presence of abundant hallucinations, by the comparatively early occurrence of grandiose ideas, by the confusions and absence or meagerness of systematization of the delusions, by an augmenting impairment of efficiency, and by the extinction of all emotions. The true paranoiac maintains his mental acumen for

years, argues and disputes with energy and intensity, fights for his freedom and believes his confinement in an institution to be a grievous wrong, while under similar conditions the paranoid dement is usually quite at ease. In the latter there generally exists a pronounced suggestibility for fresh delusions, while the delusional structure of the true paranoiac cannot be shaken or influenced.

(2) Dementia Paralytica. Not infrequently the initial stage of paresis may be paranoid in appearance. If typical paretic symptoms, such as pupilary rigidity, absence of knee jerks or speech disorders are discoverable, the diagnosis can no longer be in doubt. But if the somatic symptoms are lacking the diagnosis of paresis will have to be based solely upon the mental manifestations of the disease. The symptoms that will help us most in arriving at this diagnosis are defects of memory, absence of the paranoiac character, and the slight influence of the delusions upon the patients' acts as well as the emotional instability and changeability.

(3) Manic Depressive Insanity. In this affection periodic delusions of a paranoid kind are not infrequently observed, but the fantastic changeable delusions of the manic depressive patient have nothing in common with the delusions of the true paranoiac. The differential diagnosis is not difficult, because as a rule delusions are present in manic depressive insanity only during later attacks or at a time when the previous history and other symptoms have determined the correct diagnosis.

(4) Dementia Senilis. The differential diagnosis between paranoid delusions occurring during the course of senile dementia and those that are encountered in a true paranoia should cause no difficulty. The age of the patient, the evidence of senility, the different character of the delusions, the disorders of attention, memory and intelligence will make the diagnosis of senile dementia certain.

(5) Pre-senile Delusional Insanity. Errors in diagnosis between paranoia and pre-senile persecutory delusional insanity are easily possible, since this latter psychosis begins very much like paranoia. In its further course, however, delusions set in which may be differentiated from those of true paranoia by the following characteristics; the persecutory ideas of senile patients are generally, from their very beginning, fantastic and nonsen-

sical; they are constantly changing and are not combined into a fixed delusional system; they are susceptible of correction and the patient may be convinced of their fallacy; finally, these presenile delusions of persecution rarely or never exert a peremptory influence upon the patient's acts.

6. Mania, Melancholia and Manic Depressive Insanity

A. Mania

Mania is a disease which in the majority of instances has a tendency to recur and, as explained later, it may appear together with melancholia, in which case the affection is known as manic depressive insanity. Its characteristic emotional state is a purely expansive one, or at least has an expansive tendency, and when fully developed it finds its expression in the form of manic exaltation. The nature of this excitation may be either joyous or malevolent. The joyous exaltation is known as euphoria. In this state we never find a buoyant tranquillity which by force of its persistency and serenity might lead to weariness and therefore to discomfort, but all is action and movement, and the inexhaustible activity of all emotional processes assures a constant change. Nevertheless, in spite of this pure euphoria, intercurrent displeasurable affects arise, but on account of the rapid flow of the mental processes and the joyous foundation upon which they rest they can never gain a firm hold. Hence they need not receive the attention that must be given to the displeasurable affects of a manic depressive psychosis.

In the lighter form of mania, the intellectual processes flow with extraordinary rapidity and the intellectual receptivity for things and occurrences in the surrounding world, as well as for those in the patient's own body, is markedly heightened. While a poor observer will overlook many things that are quite apparent, the maniac, because of the rapidity of his observations, is enabled to receive relatively more impressions than even a normal person. In fact, his receptivity is not only more rapid but also more intense. At the same time his attentiveness is augmented. For these reasons he perceives and assimilates a mass of details that surely would escape the attention of a normal individual.

All this applies not alone to the perceptual ability but also to the power of reproduction. The latter, too, is increased in rapidity, readiness and vivacity. Hence the patient's powers of association grow enormously and, because he has not time for close observation, the association processes are immediately set in action by the merest points of superficial similarity. For the same reason his fantasy is boundless and the elaboration of his perceptions and the dependent conclusions and judgment, while not adversely affected, certainly are abnormal. The required logical operations take their course with intense dexterity and precision but it is just this acceleration of the mental processes —particularly the rapid sequence of the intellectual concepts— that prevents the retentiveness necessary for a proper sifting and arranging of the thought material. Similarly hyper-facile association that takes place as a result of mere superficial similarities will easily lead a maniac, even of high intelligence, to fallacious deductions, but these, when occurring in the lighter stages of the disease, are subsequently corrected. In the manifestations of the will, as well as all the other factors that go to make up the intellect, mania is characterized, as Meynert expresses it, by a luxuriousness in "expression and movement." This applies particularly to the voluntary and involuntary gestures, including the facial expressions, which being almost free from control, reflect the mental processes as they take place. Moreover, the maniac has a tendency to talk incessantly—he suffers from "logorrhea"—and all his speeches revolve about himself. In the lighter form of mania his actions are still actions in the true sense—that is, they still arise from conscious motives— but as the will as a whole lacks steadfastness, his plans and their dependent acts run riot. Although endlessly changing plans are formed, only a small part of them is carried out and then but incompletely. Hardly is a decision reached when its execution is begun; but at the same time, under the pressure of new and perhaps totally different thoughts and disorders, a new and diametrically opposed determination is reached, and thus the feverous activity comes to lack all uniformity and direction. Naturally the actions cannot keep pace with the formation of motives. For instance, motive "A" incites to action "A"; while the latter is in the process of being carried out, motives "B," "C" and "D" are beginning to have their effects; as a

result action "A" is not followed by action "B" but perhaps by action "D." Hence although the motives themselves may bear a perfectly correct sequence, their translation into actions bears the semblance of incongruity.

Common to the comportment of every manic patient, no matter what the basal effect may be, are his unbounded self-appreciation, persistent restlessness, haste and vehemence in all fields of mental activity, in gesture, movement, gait, word and acts; also his feverous activity, a tendency not only to excess in all forms of physical enjoyment, especially in the use of alcoholic stimulants and tobacco, but also to excess in work.

Every mania, therefore, is characterized by the following symptoms:

(a) A pathological emotional tone in the nature of a prolonged causeless excessive joyousness, accompanied by exalted self-importance and sometimes also by ideas of grandeur and a tendency to outbreaks of rage;

(b) Verbal excitement in the nature of flight of ideas, and

(c) Motor excitement expressing itself by great muscular activity with a tendency to destructiveness and frenzy.

The entire course of the attack may be divided into three periods. The initial stage is characterized by headache, lassitude and sleeplessness. Soon a change sets in; the patients become very lively and joyous and all their work is done with the greatest ease; they become talkative and loquacious; their gestures and expressions become vivacious, they taunt the people about them and sneer at the doings of every one they know, play all kinds of practical jokes and in many ways offend against the requirements of good behavior. These prodromal manifestations often are not looked upon by the people about the patient as evidence of disease. A most noticeable feature in the second stage is the senseless activity, the loquaciousness, the incessant shifting from one plan to another, often resulting in financial losses.

Usually all these symptoms increase rapidly and the acme or third stage of the disease is soon reached. The patients are in constantly joyous mood. They sing, dance, laugh and tease every one about them, and are always doing something. They manifest an exalted appreciation of self which in one patient may evidence itself as a harmless braggadocio, while in another

it may be a true notion of grandeur. They deride and deprecate the actions of others, talk much of themselves and their accomplishments, and unduly praise everything they do. A distinct flight of ideas exists during which the patients skip from one subject to another and are unable to carry out any single thought connectedly to its logical end. A conversation with them may begin with a few correct questions and answers, but soon they digress, revert to other matters and become flighty in their ideas and statements. Finally words and only words succeed one another with automatic rapidity; the patients talk, vociferate and even scream until they become hoarse. One thought association follows another in irregular alternation, the sequence being determined by sudden sensory impressions or by mere similarities of sound. The thought connections of the maniac usually are merely superficial. The entire rhetoric, interspersed by numerous rhymes, play upon words and poetical quotations, is characterized not by a repleteness of ideas but by a copiousness of words. Characteristic withal is the ease with which manic patients may be influenced. Their loquacity may easily be turned in any desired direction by showing them any object or by calling to them any word stimulus, for the new stimulus is immediately adopted and associatively elaborated. Their motor agitation runs parallel with their verbal excitement; this keeps up for weeks, and the continuous muscular activity and loss of sleep lead to marked emaciation of the body. Manic patients do not seem to know fatigue. They dance and jump about, tear their clothes, become violent and destroy whatever comes into their hands. The height of the attack is followed by a regression of all symptoms. The patients become fatigued, sleep returns for hours at a time, flight of ideas becomes modified into loquacity, the motor excitement into a kind of bustling activity and then recovery usually takes place.

In many instances of hypomania, the pathological quality can be recognized merely by the noticeable alteration of character and the resulting abnormal actions. The psycho-motor and speech excitation remain within moderate bounds, while the euphoric basal tone becomes markedly prominent. Hypomania may best be identified by the acts to which it leads. The patients tend to excesses of various kinds, in eating and drinking and all sorts of extravagances. On account of their retained self-con-

trol, their responsiveness, and the precision of reasoning that often exists, by means of which they explain and define their extraordinary actions, these persons are never recognized as insane by the layman.

Delusions, particularly of an expansive and paranoid nature, occur as a rule only in the more severe attacks of mania. They are generally variable and either slightly or not at all systematized, but frequently they are characterized by a fantastic confabulatory impress. The clinical picture of mania is therefore an extraordinarily varied one. At one time the euphoric, at another the passionate emotions will predominate; first psycho-motor excitement and then delusion will be most in evidence; now the general course may be mild and again it may be violent. When the affection runs its typical course and is at its acme all the symptoms of classic mania will be found present. Sometimes the psycho-motor excitement reaches such heights that the patients give vent only to inarticulate sounds and execute only incoordinate movements. Exceptionally, at the height of the disease, illusions and hallucinations set in, orientation is lost, the connectedness of concepts becomes completely severed and a state of confusion exists. This state of delirious mania usually lasts but a few days.

Differential Diagnosis

The differential diagnosis of mania must be made from the following:

(1) **Dementia Paralytica.** In every mania that occurs, particularly in men between the thirtieth and fortieth years, the first thought should be of a paresis, for states of maniacal excitement may occur in the beginning as well as during the course of this disease. The somatic symptoms of an organic brain disease and the signs of mental decline will furnish the differentiating evidence.

(2) **Dementia Præcox.** The earlier incidence of this disease, the katatonic accompaniments and the mental deterioration will identify the manic or hypomanic states of a dementia præcox.

(3) **Acute Hallucinatory Insanity.** This may also present considerable similarity to mania, but the preponderance of

hallucinations, the disorder of perception and apperception, together with the absence of true flight of ideas, will reveal the trouble in its true light.

(4) Agitated Melancholia. Exceptionally a mania may resemble an agitated melancholia, or a maniacal epileptic or hysterical state, but the characteristics typical of the latter will prevent error in diagnosis.

Forensic Aspects

The maniac easily comes into conflict with the law. Above all these conflicts will be the result of his exuberant affect and will take the form of injuries to person, insults of all kind, breach of the peace, homicide and by no means infrequently sexual crimes. Moreover forgery, theft, fraud, and alcoholic excesses, with all their unfortunate results, are often committed.

B. MELANCHOLIA

Melancholia is an affection the characteristics of which may be classified as follows:

(1) Melancholia always emanates from the emotional and not from the intellectual sphere.

(2) In melancholia we are always and necessarily dealing with an emotional depression.

(3) In addition the will is always depressingly affected.

(4) This is always and necessarily accompanied by an inhibition of the conceptual processes, the thought contents always being of a sorrowful nature.

In addition, the affection has the following negative characteristics:

(1) It is not necessarily dependent upon degenerative causes, but may arise in a primarily healthy brain.

(2) In the intellectual field there exists no disorder except the inhibition of conceptual processes already mentioned and, aside from the sorrowful coloration of the concepts, no disorder need be present.

The chief point to be remembered in melancholia is that the affection starts from the emotional and not from the intellectual field. The intellectual disorders that occur in this disease must be looked upon as secondary to the emotional ones, yet once the

emotional disorder has carried a disturbance of the intellect in its train, a mutational relationship becomes established between the two. It is this factor, namely that the first impetus emanates from the emotional and not from the intellectual sphere, that constitutes the decisive differentiation from paranoia, in which the intellectual disorder furnishes the groundwork for the disease.

When we say that melancholia is based upon an emotional disturbance, we mean an emotional depression which varies in degree in accordance with the severity of the melancholia. Moreover, it is always a question of a sorrowful depression. A sorrowful depression is of itself by no means necessarily pathological, but is a physiological psychic process. The healthiest person is subject to grief, and the person who never becomes depressed is an anomaly. To that extent the melancholiac does not differ from the non-melancholiac. Besides, the exciting causes of the depression may be the same in both, and they are as different as it is possible for them to be. In a thousand instances the melancholiac will ascribe his sorrow to causes which would produce sorrow in anybody. Of course individual disposition, educational and social conditions will account for a difference in the ease of creation and the intensity of the sorrow.

What, then, constitutes the difference between a melancholiac and the person who is normally depressed? The answer to this question may be sought in the intensity of the depression—that is, in the mental disproportion between cause and effect—for a cause which in a normal person would create a feeling of slight discomfort will plunge the melancholiac into actual despondency; or else it may be sought in the persistency of the affect, for a thing that otherwise produces a brief depression will bring about a more or less enduring result in the case of the melancholiac, or, to state it in a different way, things that the normal person considers entirely irrelevant may be sources of psychic pain for the melancholiac. All these points, including the one last mentioned, might be explained by a peculiar disposition or a hypersensitiveness which still lies within normal bounds, for there is no way of regulating the human mind in its estimation of any particular cause for sorrow or pleasure and it would be entirely wrong to expect the reaction of an average person, who remains impassive under certain circumstances merely be-

cause he is superficial, to be the same as that of a more intense nature which under similar conditions would find ample cause for despondency.

These considerations show us how difficult or impossible it may be, in the lighter cases, to depend upon the factor of sorrowful depression for the determination of the existence of a melancholia. The sorrowful depression characteristic of melancholia must possess still another quality. This is an augmenting tendency to overwhelm the personality of the affected person, to falsify his mental outlook to such an extent that he himself and every one about him appear in somber colors, as though viewed through dark glasses. Nowhere can the patient see a ray of light, and conditions and occurrences in his own body or outside of it that should ordinarily arouse joyous feelings serve only as new causes for despondency. Ultimately there exist for him no pleasurable affects. His intellectual life will necessarily be involved by this pessimistic perceptual transmutation. All in all the consciousness of the melancholiac is not disordered, and particularly the power of conclusion and judgment remains intact. Hence he will search for reasons to explain the occurrence of his painful affects and these he will find not in things outside of himself, things that are beyond his powers of control and for which he is not responsible, but in his own defects and derelictions. Therein we find a further essential factor of melancholia.

The thought contents of the melancholiac are always permeated by the notion that he himself is at fault. The self-accusations he makes he then seeks to substantiate by every possible means, and during the lighter stages of the trouble he utilizes for this purpose pessimistically distorted or exaggerated representations of occurrences from his early life. The varieties of such self-accusations are as manifold as life can make them. Whatever might be morally or legally looked upon as a source of wrong will be dragged forth for purposes of self-accusation. Under all conditions, therefore, an obscuration of the thought contents will be brought about and disorder of the intellect inevitably follows. This disorder is revealed primarily by the inhibition already mentioned. Hence we also find melancholia always characterized by an inactivity of the will. The longer the disease lasts, the more the patient becomes convinced of a

diminution of his capabilities and hence of a lowering of his personal, vocational and social worth, and this, on account of his continuous tendency to interpret everything in the sense of his displeasurable affects, he inordinately exaggerates. In view of his firm conviction of his incompetency the patient, believing it to be entirely futile to make any demands upon his will power, does so less and less. As a result the breakdown of his will power continues in an increasing degree.

The psychic inhibition that has been brought about by the dominating psychic depression acts in its turn as an independent source of displeasure and thus the vicious circle in which the total personality of the patient moves becomes more and more complete. When the circle is actually completed there exists a fear of coming into contact with other people, a lowering of self-confidence, a feeling of utter unworthiness and culpability, self-accusations and despair. That this state may cause the patient to be indifferent toward obligations devolving upon him is to be expected from the very nature of the trouble, and this apparent neglect of duty will be attributed by others to indolence or laziness. Not only are obligations shirked and legal complications caused thereby, but even pronounced unlawful acts may result from an outbreak of despair. The outbreak may set in suddenly, without any apparent outward explanation, the depression itself through its persistent monotony having passed beyond the bounds of the endurable, or it may be brought about by any purely accidental extraneous cause. On the other hand, the outbreak of despair may not set in suddenly, but may be a motor manifestation, more or less enduring and noticeable, as a result of which the patient manifests a form of restless activity that may be misinterpreted as a return of energy and health but which actually is part of the morbid agitation. Inasmuch, however, as return of energy and manifestations of activity may also be an expression of approaching cure, it is easy to see the difficulties attending the correct interpretation of the condition, especially from a forensic point of view.

In women melancholia usually begins at the age of forty-five to fifty-five (climacteric), and in men somewhat later, but not before the fiftieth year. The beginning of a melancholia is always a state of simple depression and may extend over weeks and months. The patients become sorrowful without cause,

are no longer able to conduct their work properly, become taciturn and self-centered and give expression to all kinds of vague fears. They lose interest in their own sphere of existence, derive no pleasure from anything, and become complaining and timid. Loss of appetite and sleep is an early symptom that is never wanting. Typical of the initial stage of melancholia are a peculiar restlessness and undecidedness. Now and then self-accusatory and suicidal ideas become manifest. At the height of the disease we find an unvarying constant deep affect which manifests itself in every possible expression of pain, at one time by suppressed crying and whining, at another by loud complaints and disconsolate wringing of the hands. This sorrowful depression is frequently interrupted by states of fear. These may set in at once with full force (raptus melancholicus) or may only gradually reach their complete intensity. They demonstrate themselves by marked agitation and an incessant purposeless running to and fro, by constant monotonous plaints and, not infrequently, by dangerous attempts against the patient's own life or others. The states of fear may pass by rapidly or may last for weeks. Often they recur at certain hours of the day, particularly in the early morning. The fear itself is most always a typical precordial anxiety.

In the majority of melancholiacs delusions develop very early. The delusion of sinfulness is most often observed and next in frequency is that of impoverishment. The patients pass in review their entire previous lives and everywhere find the taint of evil deeds. Some deduce their delusional ideas from a definite occurrence, usually of an entirely harmless nature, recalled from the far distant past. For instance, they may remember having refused to give alms to a beggar or having tortured an animal or having failed to disapprove with sufficient force some improper proposal made to them; and consequently they have been cast off and no longer desire to live. Sometimes the depressive delusions revolve entirely about religious questions; the patients accuse themselves of not having gone to church often enough, they have sinned against God and his laws, and for this reason they are doomed to eternal punishment. Not infrequently the delusion of sinfulness is associated with one of suspicion. From the expressions and questions of those about them the patients are sure they are being derided, scorned and

cursed. In the majority of instances the actual basis upon which the depressive delusion is built becomes amplified by delusions of a hypochondriacal and paranoid nature. The latter are never systematized and do not in any way influence the patient's conduct. The melancholiac is a *"persécuté passif."* He justifies and excuses the supposed persecutions and attributes them to his own unworthiness and his sinfulness against God and the world. The hypochondriacal delusions usually occur only episodically and are accompaniments more particularly of the earlier and later stages of the psychosis. Delusions of transformation and obsession are of only exceptional occurrence.

The depression in a melancholiac, as already stated, receives its specific impress from the concomitant existence of psychomotor and general thought inhibition, and accordingly we find such patients without power of decision, lacking in energy, and unable to arouse themselves to any positive action. Their movements are slow; often they will sit motionless for hours as though transfixed, having the same stereotyped melancholic expression and a persistent stare, with infrequent blinking of the eyelids. The play of features is limited and displays none but the feelings of sorrow and fear. Often we notice the melancholiac pressing his hand to the region of the heart. The general inhibition of thought is shown by the monotonous makeup of the delusions, by the slow, drawn-out manner of speech and by the exceedingly sparse store of words. Many of the patients will not make use of a dozen or two different words for weeks and months at a time. Sometimes a short expression of complaint, or the exclamation, "My God, my God," constitutes the sole verbal accomplishment.

Deceptions of the various senses, illusions, hallucinations of hearing and not infrequently also of taste and smell are accompaniments of the psychosis. The patients hear themselves reproached, accused, scolded, or threatened. They see their entire surroundings turning deep red, or the people about them suddenly becoming black. Appalling figures become visible, they hear the moans caused by the suffering of their starving and dying children, everything smells of dirt or noxious emanations. All in all the sense deceptions do not play a great rôle in the disease; it is only when they are present during the states

of fear that they assume an active influence, and they then constitute the cause for dangerous attacks.

A tendency to suicide and refusal of food is encountered in nearly every melancholiac. The patients are usually inalterably persistent in their attempts at self-destruction and plan them with a cunning that stands in peculiar contrast to their psychomotor and general thought inhibition. Once the opportunity is found, the execution is forceful and sure. The refusal to take food may either be due to an effort to die by starvation or else it is the result of depressive hypochondriac or paranoid delusions, the patients believing their food to be poisoned or themselves unworthy of eating, unable to digest their food, etc.

The conception of the surrounding world, orientation, intelligence and memory are not disordered, broadly speaking. Only in that exceptional delusion in which their entire surroundings appear appallingly transformed do the patients have any illusionary distortion of persons and things.

According to the predominance of individual symptoms during the course of the psychosis we may differentiate the following:

(*a*) *Melancholia simplex,* in which the sorrowful depression dominates, while more marked delusions and apprehensive excitement are absent.

(*b*) *Melancholia anxiosa,* in which the affect is one of intense fear and discharges itself as a permanent motor restlessness.

(*c*) *Melancholia stuporosa,* in which inhibition predominates, so that the highest degree of retardation of the entire psychomotor and conceptual life is reached.

According to the contents of the delusions we speak of a hypochondriacal, a religious or a persecutory melancholia. This classification, however, has very little value, because almost every melancholia at some time of its course presents delusions of various kinds.

An attack of melancholia lasts on the average from eight to fourteen months and is accompanied by loss in weight, digestive disturbances and other physical disorders. The prognosis, especially in melancholia simplex, is favorable in the majority of instances. It becomes less favorable (1) the more rapidly the sorrowful affect disappears and gives way to apathy; (2)

the more the hypochondriacal and paranoiacal delusions come into the foreground and the more nonsensical are their contents; (3) when there is present a *"délire des négations"* (nihilistic delusions), in which the patients believe the entire world has been destroyed and everything is merely a semblance and symbol of former things, or a *"délire d'énormité"* in which the patients believe themselves to be monsters of wickedness, or when true notions of grandeur exist; (4) the nearer the patient is to senile involution and the more pronounced the physical signs of senility are; (5) when there is present the melancholic derisiveness that in some cases sets in after the psychosis has lasted for months.

Forensic Aspects

Melancholia often gives cause for medico-legal consideration, particularly on account of the acts of violence to which it leads. Practically the question is usually one of criminalistic import, although, of course, civil suits for damages may follow as a result of acts of violence that have been committed. But the passive, apathetic, inactive state of the melancholiac may also attain forensic significance on account of the neglect of duty and obligations it may entail. Questions of this kind have not been of great practical significance, however. On the other hand, acts of violence committed by melancholiacs often occupy the attention of the courts. They occur in more or less typical forms, particularly damage to property, incendiarism, bodily injury, self-mutilation, murder and suicide, the latter not only as direct suicide, but also as indirect suicide. The patient who is too cowardly to kill himself may commit a crime punishable by death in order to bring about his own destruction by the hand of justice.

In the lighter kinds and stages of melancholia it will always be difficult to prove with certainty the existence of the disease, particularly since the resulting disorder of intelligence is but a restricted one and the majority of patients appear to the average observer to conduct themselves no different from other people of somewhat serious disposition. Moreover such patients are in general able to follow their occupation without noticeable difficulty and consequently the morbid indolence and its prac-

tical manifestations are attributed to a weakness of character. On the other hand, when stupor or hallucinations are present, the recognition of the disease is easy, even for the layman. A great aid in the estimation of these cases is the fact that the acts of violence committed by melancholiacs possess no motive outside of the desire to free themselves from the ban of their torturing mental tension. The more violent, unprovoked and horrible the outbreak, the more are we warranted in assuming the existence of disease.

Differential Diagnosis

The differential diagnosis of melancholia must be made from the following:

(1) **Dementia Paralytica.** The emotions of the paretic are changeable. He is undecided and weeps easily. The melancholiac, however, is unvaryingly depressed and weeps little, if at all. The affect in the melancholiac is deeper, hence his refusal to take food is usually more energetic than that of the depressed paretic patient. The latter, on the contrary, often eats remarkably well. Depressed patients who pass urine and feces uncontrolledly should be suspected of having paresis. All somatic symptoms, speech disorders, pupilary rigidity, etc., of course speak for a paresis. This disease occurs most frequently between the ages of thirty and forty-five, melancholia between forty-five and fifty-five.

(2) **Senile Dementia.** The differential diagnosis may often be difficult. The disorders of memory for recent events, defects of intelligence and the physical symptoms of old age favor the diagnosis of senile dementia.

(3) **Paranoia.** This disease, in a patient at an advanced age, may at its onset present a picture similar to that of melancholia. The suspicious, timid, irritable behavior, the more pronounced sense deceptions, the absence of inhibition, the illusions of hearing and often also the facial expression will differentiate the paranoiac from the melancholiac. The former will say, "I may have done one thing or another that was not right, but how does that concern others, and why am I being persecuted?" The melancholiac, on the other hand, says, "I am being oppressed and harrowed and they want to get rid of me

but that is perfectly right and just, for I deserve no other treatment, miserable creature that I am!"

(4) Manic Depressive Insanity. This disease occasionally does not begin until the period of involution and then the depressive stage may resemble melancholia. The diagnosis can be made only when several attacks or manic phases have been observed, for the cardinal symptoms of melancholia and the depression in manic depressive insanity are entirely similar.

C. MANIC DEPRESSIVE INSANITY

Just as the occurrence of a single attack of a simple mania is very unusual, so a typical depressive psychosis as a single episode in a person's life history is very rare. Both mania and depression tend to recur. In three-quarters of all instances the first attack of periodic and circular insanity is observed before the twenty-fifth year of life. In almost every instance we find short states of depression preceding, interrupting, or following the manic phases, or else manic states preceding, interrupting or joining the depressive phases. Mixed states are most often observed at the time when one phase passes into another.

There exist individual instances, however, in which typical manic or depressive phases do not occur, but are represented by equivalents in the shape of mixed states. Simple or classical mania, periodic insanity (periodic mania, periodic melancholia), as well as circular insanity, are classed by Kraepelin as manic depressive insanity. The only cases to be classed as simple or classical mania are those in which but one attack of mania occurs during the individual's entire life. As stated before, such cases are extraordinarily infrequent. There are other cases in which several maniacal attacks, separated from one another by long intervals, occur in a person's life. These form a transition to periodic mania, a psychosis in which we find a more or less regular cycle of attacks extending throughout the person's entire life. Correspondingly, the term melancholia serves to designate those instances in which several melancholic attacks, separated by free intervals, have occurred during a person's life. On the other hand, circular insanity comprises those cases in which manic and melancholic attacks alternate, in some in-

stances being separated by free intervals and in others being without any intermission.

The transitions between all these forms are indefinite. Particularly is it impossible to determine a distinct dividing line between periodic mania and circular insanity. In every periodic mania, melancholic attacks probably also occur. A division of manic depressive insanity into different types is not in accordance with clinical facts. A perfectly regular course, as for instance, a pure periodic mania, is extraordinarily rare. Usually the maniacal attacks are interspersed with attacks of other nature, the typical course of the disease being thereby interrupted.

Of the *manic phase* of manic depressive insanity there is little to be said that has not already been stated under the remarks on mania. Very often, however, these manic states are so light in character that they represent no more than an exuberance, an exaltation, a swinging of the depressive pendulum in an opposite direction. Then the over-activity may manifest itself in an excess of vice or of intellectual energy. So in many periodic drinkers, the attack of alcoholism usually is followed by a period of depression, representing a manic phase of a manic depressive psychosis. These remarks apply also to some authors and composers whose work is periodic and is always colored by the exuberant state during which it has been accomplished. There exist many manic depressive persons who never are recognized as being insane, whose entire life consists of a constant alternation of light mania and depressive states. Such periodists often appear as though suddenly transformed, become talkative, jovial and industrious. Flight of ideas and psychomotor excitement as a rule are wanting, while increased self-appreciation and euphoria clearly exist.

The *depressive phase* of the disease with all its symptoms constitutes a clear antithesis to the manic phase. It is characterized by a persisting, causeless, sorrowful depression, as well as by an inhibition of the will and of the conceptual processes. The sorrowful depression often sets in quite suddenly. The patients no longer find pleasure in anything and become indifferent to their own interests. Some become dispirited and resigned, others tearful and still others apprehensively excited. The psycho-motor inhibition (inhibition of the will) develops on a

parallel with the sorrowful depression and soon ends in complete indetermination. The patients' bodies are relaxed, their attitude crouching and they gaze about sorrowfully and helplessly, making but few spontaneous movements. Only with difficulty can they force themselves to even the simplest actions, as those of dressing and eating. When asked to do any definite thing, as for instance to lift the right arm, they respond with manifest difficulty, slowly and incompletely. This inhibition of the will also becomes apparent in their speech, which is often low in tone and dragging. The course of their conceptual process is distinctly retarded and monotonous. The patients can remember but with difficulty many of the things with which they formerly were thoroughly conversant. Psychic accomplishments, such as writing a letter, or conducting a simple conversation, though formerly carried out with ease, now become impossible. The patients must consider before they can respond to the most simple questions and even then their replies are retarded and drawn out.

In manic depressive insanity various forms of depression may be distinguished, differing from one another according to the intensity of the different symptoms. In mildly depressive states with slight inhibition, the patients become monosyllabic, reserved and indifferent. Their thought processes and actions are slow and awkward and only those occupations to which they have been most accustomed can be carried out. In pronounced sorrowful depression with slight inhibition, the pathological affect predominates and at times becomes so great as to constitute the most distressing fear. Patients thus afflicted are deeply unhappy, despair of everything, give vent to their self-accusatory thoughts and are suicidal. Another form is made up of depression with delusions accompanied by various degrees of inhibition. Here the delusional contents are predominantly depressive and are made up mostly of ideas of sinfulness, though paranoid and hypochondriacal delusions are not infrequent. Still another form is designated as depressive stupor. Here complete inhibition exists and is most profound, while the affect manifests itself only in the particularly disturbed physiognomy which plainly reflects the patient's complete helpless perplexity. The patients are apprehensively restless, gaze about confusedly, make short, abrupt nervous movements and are incapable of ut-

tering a word or of exercising any coordinate activity. Not infrequently they pass urine and feces involuntarily and must be fed. Sometimes the depressive stupor is associated with states of fear and sense deceptions, in which disorientation and deep disturbances of consciousness exist. Frequently, later, the recollection of these states is very faulty. A special form of depression, finally, is the so-called "*mélancolie raisonnànte.*" In this the sorrowful depression is more or less intense and the lack of will power complete. Nevertheless the patients have full insight into their condition, criticise their depressive thoughts with astonishing perspicacity and have the most intense desire for relief from their condition.

We have seen that mania and melancholia, and hence also the manic as well as the depressive phases of manic depressive insanity, are characterized by three corresponding cardinal symptoms. In the psycho-motor field we have in the one instance excitement, in the other inhibition; the emotional field is characterized in the one phase by euphoria, in the other by depression; and in the conceptual field we find upon the one hand flight of ideas, in the other retardation of thought process. Not infrequently specific episodes take place in the manic as well as in the depressive phase of manic depressive insanity, in which the symptomatology of the attack is represented by a combination of manic and depressive manifestations. The main forms of these *mixed states* are:

(1) **Manic Stupor.** This state follows upon a typical manic exaltation with flight of ideas. The patients abruptly become quiet, the psycho-motor excitement passes over into a more or less marked inhibition and it is only by the peculiar physiognomic expression, the peculiar wooden, masklike smile, that the basal manic mood may be recognized. Sometimes the manic stupor arises in the midst of a depressive stupor, in which case the previous deeply sorrowful, apprehensively excited physiognomic expression becomes transformed into a contrasting euphoric one.

(2) **Agitated Depression with Flight of Ideas.** This state also arises from the typical manic exaltation, the euphoria becoming transformed into a depression, while all other symptoms of the manic phase, flight ideas and motor excitement, persist unaltered.

(3) Manic Inhibition of Thought Processes. In this state both symptoms of the manic phase, euphoria and motor excitement, are present, but there is no flight of ideas. Instead there is a pronounced disturbance of speech productions which often gives a distinct impression of feeble-mindedness. In the place of flight of ideas there exists inhibition of thought processes. This may easily be demonstrated if the patient be drawn into conversation, if an arithmetical problem be given to him to solve or if his intelligence be tested in some other manner. Then the retardation and laboriousness of the powers of thought and judgment become evident. Of course, the questions asked must be adapted to the patient's degree of culture. The duration of an individual attack varies. The manic as well as the depressive phase may last for weeks and months; very rarely do they last for years. The average duration is two to four months. The first attacks are usually followed by a prolonged free interval, which may continue for years. Later the attacks become more frequent and the free intervals shorter. The prognosis of the individual attack is good. Except for a certain apathy and enfeeblement of will power which may remain permanently after frequent attacks, recovery generally takes place.

It should be remembered, however, that manic depressive insanity is a disease in which hereditary taint plays an important part and that the intervals between the individual phases are, therefore, always tinged by this constitutional makeup as well as by the apathy and enfeebled will power. For this reason, the disease often cannot be looked upon forensically as one with "free intervals," but must be considered as a continuous or permanent state.

Differential Diagnosis

On account of the alternations of manic and depressive phases with remissions that occur in some cases of katatonia, these may be mistaken for manic depressive insanity. A careful analysis of the manifestations, however, will reveal distinct differences. The manic patient may be diverted; not so the katatonic. Important and of decisive value is the facial expression. In the katatonic we encounter empty masklike traits or grimaces and tics, in the manic stuporous patient a tense sardonic euphoria

and in the depressive stuporous patient a disturbed apprehensive facial expression. Moreover true flight of ideas does not occur in katatonia.

Some cases of paresis may be remindful of manic depressive insanity, but aside from the psychic symptoms of paretic dementia, somatic signs of paresis will be demonstrable.

Forensic Aspects

The medico-legal relations of a manic depressive psychosis will in the manic phase be those of a mania and in the depressed phase those of a melancholia and their estimation except in very mild cases should occasion no difficulties. In the mild cases the social complications may be so great that they may lead to charges of insubordination, neglect of duty and neglect of family obligations, and yet the patients may not be recognized as insane.

A much more difficult problem, however, is the estimation of the forensic relations of the intervals between the various phases, as well as the intervals between the attacks. Both of these periods may be of comparatively short duration and at the same time be free from recognizable mental anomalies. Consequently there may be danger that these intervals will be looked upon forensically as "lucid intervals" in which a patient supposedly has temporarily regained his reason and is, therefore, legally not insane. From a medical point of view there can be no such "lucid intervals," for every well-defined form of mental disease has its well-defined course and duration and it is immaterial whether at one period or another certain symptoms are in abeyance or not. So long as the disease persists, it will take its course even if short periods of apparent mental health are interspersed or not. The intervals between the phases of a manic depressive psychosis, however, represent something entirely different. The patient is insane for the period of the individual phase, but not for that of the interval. Mental disease has preceded and we know mental disease will follow. Yet even during the interval all those characteristics which constitute the psychic personality of the individual, and which furnish the soil upon which the disease itself flourishes, will continue to be present. Upon the number and intensity of these intervallary symptoms

will depend the estimation of each individual case and the judicial determination as to whether the person was incompetent or irresponsible at the particular time. The essential point is not that the patient happens to be at a period between two phases of mental disorder. The entire mental state at the time of the examination, considered in combination with what has gone before and what is to come after, will have to be the deciding factor.

II

THE NEUROPSYCHOSES

1. Hysteria

Hysteria is an abnormal mental state based upon an inherited taint. The cardinal symptom consists in a morbidly exaggerated suggestibility for all concepts that relate to the patient's own personality. These concepts, acquired in part through auto-suggestion, in part through extraneous influences, control the entire nervous system in a directly imperative manner, exert their action upon the motor, the sensory, the secretory and the vaso-motor nerve conductions and bring about an entire series of functional nervous manifestations. The latter in turn are characterized by the fact that they may be made to disappear by concepts of an antagonistic nature, implanted either by auto-suggestion or by hetero-suggestion, in a way that would seem almost miraculous to the lay observer.

The word "hysteria" indicates that the disease has its seat in the uterus. This would lead us to infer that hysteria is a specific disease of women. Such, however, is not the case. Numerous observations have shown that hysteria occurs in men as well, though with less frequency than in women. For this reason it has been proposed to replace the term "hysteria," a name which has become entirely inadequate, by that of "psychogeny." This new term lays stress upon the inmost nature of the hysterical state, viz., the fact that all hysterical symptoms, the psychic as well as the physical ones, may be produced essentially by abnormally strong concepts and influenced, as well as annulled, by the same means.

Hysteria develops upon the groundwork of a primary abnormal disposition. Often the main characteristics of the hysterical personality are indicated in early childhood and not infrequently all the distinctive marks of hysteria will be found already present in the child. The disease usually attains its full development around the time of puberty.

In every instance the diagnosis of hysteria may be based in the main upon these two essential factors:

(1) The basis of hysteria is constituted by a permanent psychic abnormal state whose chief characteristic is represented by the hysterical personality.

(2) Upon this basis all kinds of nervous and psychic disorders occur episodically and these are signalized by their dependence upon concepts and counter concepts.

Hysteria may develop in individuals who are well developed intellectually as well as in the feeble-minded and in those who are morally defective. Hence the hysterical personality does not represent a concrete type. We will always find it to be made up, however, of a certain number of typical sharply defined states. These are the following:

(1) *Instability.* Hysterics are extraordinarily unstable; their mood is constantly changing; states of depression give way to states of excited rage. At one time such patients will be oversensitive and easily aggrieved, shedding torrents of tears upon the slightest provocation; at another they will be reserved, indifferent and malevolent. Now they will intrigue, slander every one about them and create disturbance and discord, and again they will be profuse in self-accusation, acknowledge all their faults and dwell protractedly upon their own wickedness. Besides they are unstable in their activities. Temporarily they may manifest a morbid energy in the promotion of any notion that dominates them and whose realization demands that they play a certain rôle. But this exhibition of energy is usually followed by complete abandonment. Persistency of action is wanting. Moodiness, momentary impulses, sympathies and antipathies determine all their actions.

(2) *Suggestibility.* In accordance with their uncertain character, all hysterical individuals are influenced with extraordinary ease. They are very susceptible to external impressions and everything new that presents any interest has particular attraction for them.

(3) *Negativism.* In contradistinction to their enormous suggestibility and not infrequently directly associated with it, hysterics often manifest an accentuated negativistic attitude during which nothing can be obtained from them except by contrary statements and in which, unapproachable as they are

for any extraneous influences, they impose all kinds of deprivation upon themselves and continue to suffer with obstinate persistence. It is then we so often observe mutism and a most obstinate refusal to take food.

(4) *Love for notoriety.* Mostly all hysterics have a tendency to push themselves everywhere into the foreground. Their romantic self-accusations, their sensational confabulations, their self-mutilation and their well-staged attempts at suicide, all have but one purpose—that of making themselves the center of attention; the more debased the woman hysteric is from a moral point of view the less will she refrain from the most disgraceful deeds, and she will lie, simulate, slander and even steal in order to attain her purpose of winning personal attention.

(5) *Egotism.* The love for notoriety is merely a marked manifestation of the egotism of hysterics. All their attention is directed exclusively toward themselves, and they give themselves up with the greatest intenseness and persistency to a study of their physical and mental states. The slightest disturbance in their sense of health will receive the most profound attention and find an outlet in the most exaggerated complaints. Withal they are indifferent to the sufferings of their associates, they constantly demand special care and consideration, believe themselves to be neglected and are jealous and envious of everybody else. Ultimately the state of being sick becomes a necessity for them and they enact this, their calling, with the entire masterly skill that the hysterical temperament has placed at their disposal. Here it is that the extraordinarily mobile dramatic talent so characteristic of the hysteric becomes so helpful to them. Notwithstanding the purposeful exhibition of their martyrdom, hysterics are often not unappreciative of the pleasures of life and usually are greedy, vain and inquisitive.

(6) *The tendency to confabulation.* Truth and fiction are usually so intimately associated in hysterics that they themselves, being no longer able to differentiate between the two, finally believe their own inventions to be actual occurrences. For this reason we must not always look upon the confabulations of hysterics as conscious deceptions, but must consider that they may be falsifying in good faith.

(7) *The tendency to simulation.* This is very frequently

encountered in hysterics. Expectoration of blood, fever, paralysis, refusal to take food and many other serious symptoms of disease have been simulated by hysterics, more or less adroitly, so that laparotomy and other major operations have been carried out when, as appeared later, they were not at all necessary.

Upon the basis of the permanently abnormal state that we have just sketched and which may be designated as a psychic degeneration, the bodily symptoms of hysteria develop and manifest themselves partly as symptoms of nerve irritation, partly as symptoms of nerve destruction. These symptoms are characterized by their dependence upon, and their capability of being influenced by, ideas. This is shown by the following facts:

(a) The attention that hysterics bestow upon themselves or which is given them by other persons (members of the family, physicians, etc.) usually produces an increase in their symptoms, so that tremor, pain, speech disorders, etc., become more pronounced.

(b) Strong affects increase, ameliorate or annul the symptoms. Not infrequently contractures, paralyses, etc., of an hysterical nature supervene after strong emotions (fear or fright) just as, upon the other hand, functional disorders may disappear under the influence of marked psychic excitement.

(c) Symptomatically, suggestion reinforced by electricity, hypnotism or any indifferent medicament has a decided influence upon the production as well as upon the amelioration and abolition of hysterical states. In this connection I would refer to my book on Suggestion and Psychotherapy, in which the theory of psychogenic diseases and their treatment by psychogenic measures are elaborated.

The most important bodily disorders of hysterics are the following:

(A) Disorders of sensation. These consist in anæsthesias and hyperæsthesias, occurring either alone or in combination. Anæsthesia is the most frequent and may be spread over the entire body or may occur hemilaterally or regionally. In the latter case the anæsthesia never corresponds to the anatomical distribution of the nerve, but covers the entire extremity or certain parts of the extremity limited by the joints (hand or

foot), or it is diffused over different portions of the body that bear no anatomical or physiological relationship to one another. Frequently the mucous membranes also are anæsthetic. The hyperæsthesias show the same irregularities of localization as do the anæsthesias. They may occur anywhere and to any extent. Very frequent are the neuralgic pains. Particularly frequent are the boring, circumscribed pain in the forehead or upon the occiput known as *clavus;* the sensation of a ball moving up and down in the throat or closing it (globus); sensitiveness along the spinal column (spinal irritation), and pain upon pressure in the region of the ovaries. The anæsthesias and hyperæsthesias may often be made to disappear by the application of magnets or by means of other suggestive measures, but they will reappear at some other place. This manifestation has been designated as *transfert.* Pressure upon the hyperæsthetic areas will often bring about convulsive attacks (hysterogenic zones).

(B) Disorders of special sense. The most frequent of these is concentric restriction of the visual field; less frequent is a reduction of visual acuity. Diminution of the color sense (dyschromatopsia) as well as complete loss of color sense (achromatopsia) are also encountered. Of these achromatopsia, usually occurring unilaterally, is most frequent. Transitory disturbances of hearing are rare, but disturbances of the sense of smell and taste are more frequently observed.

(C) Disorders of motility. These are tremor, disturbances of speech, convulsions, paralyses and contractures.

The tremors manifest themselves as trepidation of the eyelids, nystagmus, trembling of the extended fingers, spontaneous tremor in various extremities.

The hysterical disorders of speech are stuttering and stammering. Not infrequently we encounter hysterical (psychogenic) paralyses of the vocal cords (aphonia).

The hysterical convulsions may be classed as rudimentary, light and severe. The rudimentary convulsive attacks occur in juvenile hysteria as well as in the very beginning of the disease when it develops in later life. They consist of a transitory clinching of the hands, slight distortion of the arms, clonus of the lids and rolling of the eyeballs, or in short laryngeal spasms with rapid respirations. The light convulsive attacks are the

most frequent. They are made up mainly of the epileptoid period of the *grande attaque;* the two phases being absent or but weakly indicated. The severe convulsions may in accordance with the terminology of the Charcot school be divided into four phases:

(1) *An Epileptoid Period.* This ordinarily begins without a cry, the entire musculature of the body stiffens, the hands become clinched, the head is slowly turned backward, the eyes are rolled upward, the face is distorted and the extremities slowly become convulsed. Then follow a sharp rapid jerking of the hands, a twitching of the face, of the other extremities and then a short respite. This period lasts from two to five minutes.

(2) *A Period of Extensive Movements.* This begins with the posture so characteristic of hysteria, known as *"arc de cercle,"* in which the body, bent like an arch with the convexity upward, rests only upon the head and feet. During this period the entire body stiffens as in a katatonic and may be turned or lifted like a dead weight. After from two to ten minutes the extensive movements set in and each hysterical individual may have certain movements that are peculiar to him and to the attack with which we are dealing. Some patients will beat their breasts with their fists, others will turn and roll the head or the entire body, others will wallow upon the floor and perform all kinds of unrelated incoordinate movements. Sometimes these *"grandes mouvements"* have a monotonous stereotyped character.

(3) *A Period of Emotional Attitudes.* This follows upon the *"période des grandes mouvements"* without any sharp dividing line and is made up of constantly changing theatrical poses and dramatic gestures. This period lasts from five to ten minutes.

(4) *A Period of Delirium.* This phase follows directly upon the preceding one and is a period of twilight consciousness, during which the attack exhausts itself. Single memory deceptions set in, the unconsciousness disappears and gradually orientation returns. This period may last for minutes or hours. Frequently it is followed by paralyses, contractures and other hysterical symptoms. Sometimes it passes over into an hysterical insanity.

Hysterical paralyses are encountered as hemiplegias, mono-

plegias or paraplegias. Moreover we meet with an inability to walk (abasia) and to stand (astasia) and less frequently with hysterical speech disorders.

Hysterical contractures affect the extremities so that they usually maintain a posture corresponding to that of any one momentary phase of the convulsion and appear as though molded into that posture. These hysterical contractures differ from the organic ones by the great complexity of the position of the affected extremities, by the absence of an associated facial weakness or facial paralysis, by their usual association with hemianæsthesia and by their sudden occurrence. The organic contractures usually develop slowly.

(*D*) *Disorders of a secretory and vaso-motor nature.* These are hemilateral or circumscribed sweating, stasis, œdema, etc.; these also may be influenced psychically.

(*E*) *Hysterical disorder of the gastro-intestinal tract.* The symptoms occasionally encountered are a globus sensation in the abdomen, eructations, meteorism and vomiting.

(F) Other bodily disorders. Temperature increase (hysterical fever) and tachycardia of psychic origin have been observed.

Hysterical insanity in a more restricted sense represents those states that usually occur episodically upon the basis of a permanently existing hysterical temperament, are associated with marked obscuration of consciousness and are similar to true psychoses. The following disorders may here be differentiated:

(a) Somnambulic states. The patients suddenly arise, wander about as though fully conscious and carry out actions that may be orderly or ridiculous, or exceptionally of a criminal nature (theft, incendiarism, etc.), then fall into a deep sleep and subsequently, upon awakening, have total or partial amnesia. Retrograde amnesia also may follow. Such attacks occur at night, but may set in during the daytime, particularly after a convulsive attack. While in such a state the patients are completely reactionless, or can be awakened only with difficulty by means of external irritants.

(b) Hysterical twilight states. These occur most frequently before or after the major attack (pre- and post-hysterical twilight states). Immediately following the "*période des atti-*

tudes passionelles'' a state of hallucinatory delirium sets in during which consciousness is more or less obscured. The nature of the delirium is usually given by experiences of a particularly exciting kind, disinterred from the far past and lived over again by the patient with extraordinary sensory plasticity, the visionary scenes being accompanied by marked hallucinations of hearing. Visual illusions of an appalling kind are also frequent, the patient seeing wild animals, snakes and lions in the act of attacking him, somber apparitions armed with dangerous weapons, coffins containing relatives, etc. Pronounced dramatic gesticulations, marked play of features, vague paranoiac notions and often an affected drawling mannerism accompany this state, which passes rapidly over into one of complete consciousness. Occasionally there exist states of religious ecstasy in which the patient sees celestial images and has the facial expression of one who is in a beatific state. The hysterical twilight states are followed by a loss of memory of greater or less extent. This amnesia may disappear in a subsequent twilight state, during which the patient lives through and elaborates scenes similar to those experienced in the previous twilight state. In some cases, however, there may be alternation of clear consciousness and twilight state so that the patient lives in a kind of double consciousness, in that upon the one hand the experiences of the individual delirious phases bear an associative relationship to each other, while upon the other the experiences of the lucid phases only are associatively combined, and the transition between them is a disconnected and unconscious one. In such a delirious stage hysterics will sometimes believe themselves back in an earlier period of life, even in that of childhood, and then they will talk, act and conduct themselves in conformity with the illusionary situation. Thus the contrast between the delirious and the lucid stages becomes still more marked and we may fittingly speak of the existence of a double personality. These hysterical twilight states have often occurred episodically, and this was particularly so during the middle ages.

(c) Manic states of excitement. Such states occur transitorily, particularly in youthful hysterics. They are characterized by a continuous affectation of speech, by foolish

euphoria with frequent laughter, by marked erotic traits and a tendency to nonsensical acts.

(d) Hysterical states of depression. Such states may as a rule be easily recognized by the presence of pronounced evidence of an hysterical character. Inhibition is either very slight or is entirely absent.

The prognosis of hysteria is unfavorable. While it is true that defects of intelligence or dementia never set in, the congenital psychopathic state permanently remains. The transitory disorders of body or mind present a good prognosis. They disappear without leaving any trace as soon as the correct remedy, that is, the proper suggestion, has been found.

Differential Diagnosis

Before arriving at a diagnosis of hysteria, we must exclude a series of other states in which symptoms and conditions very suggestive of hysteria occur. These states occur as follows:

(A) In all possible diseases of the brain and spinal cord (tumors of the brain, echinococcus of the brain, tabes, disseminated sclerosis, etc.). In such instances the examination should be a most careful one in order to ascertain whether the existing symptoms can be explained anatomically by means of any definite localized lesion, which of course could not be the case in hysteria.

(B) In a series of other functional (psychogenic) mental disorders. These are:

(1) Dementia simplex and dementia katatonia. A differential diagnosis of these psychoses has already been considered.

(2) Melancholia. Here, as we have shown in the chapter on melancholia, the differential diagnosis cannot be difficult.

(3) In hystero-hypochondriasis. This differential diagnosis will be considered in the proper chapter.

(4) In the neuro-psychoses due to accident. These cases of hysteria are called "traumatic hysteria" and constitute an important factor in medico-legal contests of a civil nature, particularly in the determination of claims for damages made on account

of loss resulting from accident. In consequence of the tendency possessed by all hysterics to exaggerate inordinately their sufferings it is not always easy for the expert psychiatrist to determine accurately which of the injuries to health that are claimed to exist are actually the result of the accident and which ones must be attributed to a previously existing hysteria. Light can best be shed upon this question by a careful anamnesis. Of importance for differential diagnosis, moreover, is the fact that the symptomatology of cases of traumatic hysteria is usually a much more monotonous one than is that of the traumatic neurosis in which there is no hysterical element.

(5) **In epilepsy.** The differential diagnosis between hysteria and epilepsy will be discussed explicitly in the chapter on epilepsy.

Forensic Aspects

The medico-legal relations that obtain in hysteria are extraordinarily important in criminal cases as well as in contentions of civil law. Not only is the comportment of hysterics characterized by a subtlety so extraordinary that it is often very difficult to demonstrate the actuality of their complaints, but also the testimony of such hysterics must be accepted with the utmost reserve. The majority of acts through which the hysteric comes into conflict with the criminal law depend upon the particular hysterical state in which they are committed. Thus the offenses committed during the transitory twilight states are thefts that are carried out as a result of desires that arise impulsively or have been carried over from the waking state. Incendiarism is committed under analogous conditions. In still other instances we are required to deal with the perverse impulsive desires that arise in hysterical individuals after pregnancy, acute diseases, etc.

Most of the hysteric shoplifters, swindlers and adventurers, however, are morally defective individuals, as are also those hysterics who calumniate, slander and write anonymous accusations. It is often impossible to draw a line between these

hysterics and the psychic inferiors of whom we shall speak later on, and the determination of responsibility and irresponsibility in them is one of the most difficult tasks for which the aid of the expert is sought. Hysterics attract our attention also by their inability to narrate in a simple, correct way the occurrences that have come within their knowledge. They combine the actual happenings with their fantastic inventions in such a manner that a true picture cannot be obtained. The hysteric who is called as a witness in court thus may become a menace to justice. The statements of such a person, when uncorroborated, must be accepted with the greatest reserve. Particularly frequent are the false accusations of a sexual nature that are brought by hysterics against people with whom they have had differences of any kind. Denunciations of physicians with accusations of having committed sexual assault upon their female patients are of constant occurrence.

2. Neurasthenia

The term "neurasthenia" is used to designate a large number of different states. No matter how the term has been used it always has referred to a number of conditions that occupy the borderline between mental health and mental disease and which, notwithstanding the congenital or acquired somatic or psychic abnormalities, cannot be classed among the true insanities. Nevertheless individuals classed as neurasthenic show a tendency to inferiority in their manner of thinking, their mode of action, their ethical feeling and their freedom of determination as compared to persons who are mentally healthy. All such individuals are irritable and more or less unable to control their desires, emotions, and passions and therefore they more easily become a menace to our social order. As Hoche very properly says, many so-called neurasthenics really should be classed among the constitutional inferiors. Dubois expresses himself in a similar manner and believes every neurasthenic to have a mental deficiency of some kind.

The symptom complex that is developed in many individuals and which has been designated as neurasthenic may set in after physical or mental over-exertion, sexual or other excesses, or, in short, as a result of the enervating influence of modern cul-

tural life. In all such instances, however, it is important to remember that it is most unusual for neurasthenia to develop upon a basis of mental health. If in perfect health, both mentally and physically, a person cannot become neurasthenic. Moreover, in neurasthenia we are actually dealing with an affection of the brain, and therefore it would be better to avoid the use of the term "neurasthenia" and employ in its stead the recently proposed designation "psychasthenia." This term is more descriptive of the nature of the trouble and aids us in our forensic views.

The neurasthenic symptom complex is made up in the main of neuro-physical manifestations, but these almost always are associated with psychic symptoms which to a greater or less extent dominate the individual's mental activity.

The essential disturbances in the neuro-physical domain are:

(1) **Motor Symptoms.** Tremor, clonus of the eyelids, swaying of the body when the eyes are closed, unsteady, hesitating speech, slight incoordination of the muscles and general muscular weakness.

(2) **Sensory Symptoms.** Paræsthesias, sensations of crawling and creeping, as well as pains of vague nature, occurring mostly in circumscribed parts of the body. In addition, headaches in all possible forms recurring regularly, also migraine, head pressure, slight spells of dizziness, flickering before the eyes and a feeling of bodily fatigue.

(3) **Vaso-Motor Symptoms.** Perspiration and flushing upon the slightest provocation, congestion of the face, palpitation and teachycardia.

(4) **Reflex Symptoms.** The reflexes are often increased, particularly the knee jerks.

In the psychic domain we note above all a morbid excitability associated with a tendency to rapid exhaustion. Neurasthenic persons are quite capable of a brief effort, but cannot concentrate the attention for any extended length of time. This instability is accompanied by a more or less pronounced difficulty of comprehension and a weakness of memory. The emotional trend is usually a pessimistic one and hypochondriacal notions are frequent.

A symptom of importance is the irritability that is shown by many neurasthenics. All emotional occurrences upset and ex-

cite them unduly, but the excitement so easily produced passes away quite as quickly and is followed by sorrow and regret for what may have been said or done. Characteristic of neurasthenia also are the obsessions that accompany it (agoraphobia, misophobia, etc.), prominent among which is the marked sense of fear and apprehension that comes over many patients. These obsessions are very rarely transformed into action. In accordance with the predominance of individual symptoms we may speak of a cerebral, a spinal, a sexual or some other form of neurasthenia. The prognosis under suitable care and treatment is good.

Forensic Aspects

Forensically, neurasthenia is of significance only in so far as contraventions of minor kind are concerned. The temporarily enfeebled memory may entail a neglect of duty, the indecisiveness and fear may lead to confusion and mistakes in the execution of orders and the irritability may lead to attacks upon persons and things. Beyond this the disease can have but little bearing in criminal or civil law and the existence of the affection can at most be looked upon as a mitigating factor in determining the responsibility of the accused person.

The relationship that the imperative ideas of neurasthenics bear to overt acts they may commit is very important. Notions differ as to how these obsessions may be transformed into action. Motor impulses calling for the commission of certain criminal acts are well known—for instance, the sight of a pointed instrument may arouse the notion to kill some beloved relative, hearing a prominent person addressing an audience at a public celebration may kindle the impulse to break forth in words of insult or derision, the handling of matches or a lighted candle to set fire to the room, etc. As a matter of fact many sexual crimes, incendiarism, and other things have been ascribed to imperative acts. It is well recognized, however, that an assumption of this kind should be most guardedly made, for not infrequently those acts are based upon undiscovered hallucinations and delusions. The neurasthenic patient always is able to view his imperative thoughts with a consciousness that is clear and unclouded, and consequently is able to recognize

the unlawfulness of any resultant act and to control his doings. Wheresoever the supposedly imperative acts are committed we will probably always find some underlying cause other than that of the imperative impulse.

Differential Diagnosis

Neurasthenic symptoms may occur in various diseases, in severe bodily disorders, tuberculosis, exhausting suppurative processes, nephritis, reconvalescence after infectious disease and especially after influenza. In organic brain and spinal cord diseases, as tabes, tumors, lues, incipient sclerosis and abscesses, we often encounter such symptoms. This is true also of mental diseases, particularly of the initial stage of dementia præcox and less frequently of mania, as well as of dementia paralytica. The differential diagnosis from this latter disease being of the utmost practical importance, I must refer to what has already been said in the chapter discussing it in detail.

3. Psychic Constitutional Inferiority

Hereditary taint manifests itself, as we have seen, not only in physical signs of degeneration but also by the presence of certain psychic anomalies. These, in so far as they constitute definite psychoses, do not concern us at this particular moment but they are very frequently encountered as psychopathies of mild degree which cannot be classified into any of our known forms of insanity. Our knowledge of the anomalies of mental life and the subject of degeneracy is a product of modern times and has been best interpreted by Magnan in France and Koch in Germany.

Under the designation of psychopathic inferiority, Koch includes all the mental abnormalities that have arisen upon an inherited basis, which may be either congenital or acquired, and "which even in severe cases do not represent mental disease but even in the most favorable cases make the affected person appear as not in complete possession of mental normality and capability."

This psychopathic inferiority, which was recognized by the English physician Prichard as early as 1825 and termed "moral

insanity," has been called "constitutional inferiority" by Adolf Meyer. So long as we recognize the social import and the medico-legal difficulties of its relations, it is immaterial what designation be employed. This degeneracy manifests itself even in early childhood. The affected children sleep badly, have night terrors, are irritable and easily depressed, become delirious with slight fever and have convulsions upon slight provocation. When they go to school a new series of manifestations becomes apparent. Noticeable above all is an inequality in their work. In some branches they are in advance of their classmates while in others they are decidedly backward. They are emotional, excitable, subject to outbursts of passion, play truant and are untruthful and deceitful. Many show great cruelty to animals and disregard for the sufferings of others. In school they are the despair of their teachers, at home of their parents. When they attain the age of puberty we note a more brusque development than is the case in the normal child. The emotional instabilities of early life become increased. Maladjustment to their surroundings now becomes manifest. Likes and dislikes are most pronounced. The entire development is disharmonic. Many such children show a prematurity of development, while in others the period of adolescence is much more extended than in normal persons, maturity not taking place until around the twenty-fifth year. Their later life is characterized by a diminished tolerance toward atmospheric and temperature changes, by an emotional disequilibrium of the most pronounced kind, by an abnormal exhaustibility manifesting itself in rapid fatigue, by slowness of thought and weakness of will. This lack of balance, so characteristic of degeneracy, may be particularly manifest at certain periods of the individual's life and then we often find special inclinations and impulses present at a time that must be considered premature. This is shown in some such individuals by the abnormally early development of the sexual desires and sexual potency and the sexual trend given to their entire thought. The chapter on sexual perversion will show the bearing this may have upon their subsequent life.

The adult psychopath manifests to a yet more pronounced degree the traits already mentioned, more especially the lack of emotional balance and the intellectual inequalities. The mental anomalies of adults may be divided into those of the in-

tellect, those of the emotions and those of the will. From a social standpoint those of the intellect are the most important. The attention is weak, the memory feeble, the association of ideas sluggish and the imagination limited. A pronounced feature is the intense egotism. Immeasurable vanity, grandiose ideas and notions of reference are fundamental. These psychopaths are unbounded in the demands they make for themselves and are totally regardless of other persons' rights. They are most appreciative of their own accomplishments and depreciatingly critical of the deeds of others. The intellectual anomalies bring forth a type that embraces a wide range of inferiority which may differ in both character and quality. Idiocy, imbecility and moronism constitute one end of the chain while at the other we find but a relative intellectual deficiency which causes no social disturbance because it is offset by a fairly good development of the emotional and volitional faculties.

The emotional form of constitutional inferiority also presents well defined characteristics. Usually there is an extreme mobility of moods; in some instances there is a deficiency or excess of emotional activity. Some are over-sensitive, secretive and—as Hoch expresses it—"shut in," others are vivacious, loquacious and lacking in restraint. The conduct is the result of the inadequacy of judgment and the instability of the emotions. It is full of contradictions. In the life of such inferiors changes of situations and occupations are of frequent occurrences, differences and quarrels with associates and superiors are common. Everything they undertake is a failure and fateful injustice is blamed for all. Thus we see in the constitutional inferior a person who is characterized by a disequilibrium of intellect, emotion, conduct and efficiency. He is not insane in the restricted sense of the word except when episodically some extraordinary occurrence such as an arrest, an unfortunate love affair, or the loss of money, etc., produces a passing depressive or manic psychosis. As a rule constitutional inferiors occupy the borderline between mental health and mental disease. For this reason proof of the existence of any or many manifestations of constitutional inferiority does not carry with it proof of the individual's insanity. For this more is needed. To what extent the existing inferiority will exert an influence upon the person's free determination must be decided in each individual

instance. The difficulties in arriving at such a decision are the same as in all borderline conditions. The clinical varieties of the volitional form of constitutional inferiority are many and in some instances they remain undetected until they come into conflict with the law. By far the greater number of cases of constitutional inferiority, as Ziehen has pointed out, present distinct bodily abnormalities as well. Upon the somatic side we find a poor general development, dwarfish growth, infantilism, irregularity in the development of certain parts and the various so-called stigmata of degeneracy spoken of in an earlier chapter. Tremor, facial and other tics, nystagmoid movements of the eyeballs, headaches and nocturnal enuresis occurring into an advanced age are most frequent.

Forensic Aspects

The anti-social acts of such constitutional inferiors are of the most varied kind, those most frequently met with being, in the order mentioned, fraud, burglary, sexual crimes, highway robbery and personal injury.

Just how these constitutional inferiors, who certainly are but restrictedly responsible, should be treated by the law is rather a technical legal question than a medical one. They are often so incapable of social self-control under the ordinary demands of life that they must be safeguarded, yet they are so much on the borderline that they belong neither in institutions for the feeble-minded nor in asylums for the insane, and still they should not be punished by internment in a penal institution. The establishment of special institutions, where they can be kept for a prolonged period of time, at all events until they are no longer a menace to the public, seems to be an urgent need. In such institutions they would receive the medical treatment called for by modern research work relating to the influence of the ductless glands in the production of disease.

4. Epilepsy

Epilepsy is a disease of the brain usually implanted upon a soil that has a marked hereditary taint. It is characterized by the periodical occurrence of disorders of consciousness. We

distinguish between typical epilepsy and concealed or larvated epilepsy. The designation "typical epilepsy" is applied to all those cases that have attacks of epileptic convulsions or dizziness. In concealed (larvated) epilepsy, the characteristic attacks are usually absent; moreover, the epileptic symptoms are of a psychic nature, while attacks with abolition of consciousness are exceptional or occur only in a rudimentary form. Hence the characteristic trait of larvated epilepsy is the psychic equivalent.

In typical epilepsy the main symptom is recognized by the convulsive attacks, which may be divided into rudimentary, small and large ones. The rudimentary attacks are simple fainting spells without convulsions but with complete loss of consciousness and subsequent amnesia. They are also designated as "*absences.*" Among rudimentary attacks, however, we also include spells of dizziness that pass by rapidly and in which consciousness is not entirely lost, so the victim still has time to guard himself against falling. In addition there are abnormal psychic states made up of spells in which the patient has the sensation of having once before lived through exactly the same experience in precisely the same manner. This state is known as paramnesia. Sometimes, too, the patient suddenly becomes overpowered by fear and indefinite despair, during which he has a feeling as though he no longer exists or has faded into thin air. After an attack of this kind the patient believes he has actually passed through an experience so extraordinary that it is entirely indescribable.

The small epileptic attacks (epilepsia minor) are typical spells imperfectly developed. The patient suddenly loses consciousness and sinks to the ground; then a short tonic convulsion sets in and the return to consciousness follows without any intermediary clonic phase.

The large epileptic attacks may be divided into four phases, as follows:

(1) The Phase of Prodromata. Many epileptics feel an attack coming minutes or hours before it actually occurs. Before the outbreak a certain definite warning signal appears to them, and this always occurs in precisely the same manner in the same epileptic. This is called the aura and may be of motor, sensory, vaso-motor or psychic nature or may affect one of the

special senses. The motor aura consists of isolated clonic and tonic twitchings in the distribution of some motor nerve, as in the thumb or in the face; the sensory aura is characterized by a sudden pain, headaches or paræsthesias, and especially by a sensation as of the passing of a cool current of air (hence the name aura); the vaso-motor aura is made up of general or localized sweating with palpitation; the psychic aura consists of a feeling of fear, paramnesia and the dreamy state (sensation of fading into nothingness) already described, while the aura of special sense consists of hallucinations in any or all of the specific nerve domains. The epileptic having an aura knows an attack is imminent and makes provisions to protect himself against a fall. But in many epileptics the aura is absent. In their cases the convulsions set in while consciousness is intact; they fall to the ground and often injure themselves materially.

(2) The Phase of Tonic Spasm. The patient suddenly becomes pale, gives a rending cry and falls unconscious to the ground. Some fall upon the back, others upon the side, the majority upon the face. At once a general stiffness of the body sets in, the eyes are turned upward, the head is twisted to one side, the mouth is distorted, the thumb is flexed within the closed hand, the convulsive distorted face becomes livid, respiration having come almost to a standstill as a result of spasm of the diaphragm, and the pupils are widely dilated and reactionless, or respond slightly to light. Semen may be ejaculated and an evacuation of urine and feces may occur. The pulse is hard and rapid.

(3) The Phase of Clonic Spasm. After a few seconds of tonic spasm the jerkings begin, first slowly, then rapidly increasing in frequency. The head is jerked from one side to the other, the angles of the mouth are drawn sideways as far as possible, the tongue is thrown from and drawn back into the mouth and is injured by the teeth, blood and bloody saliva are emitted from the mouth, and the face, which until this time has been contortionately fixed, becomes constantly altered in consequence of the muscular jerkings and the rolling of the eyeballs. The jerkings implicate the entire musculature of the body. Respiration is often reduced in frequency and the body temperature rises by several tenths of a degree.

(4) The Phase of Stertorous Sleep. Gradually the jerkings cease and the phase of stertorous sleep begins with a deep loud inspiration; the relaxed limbs fall to the ground, the forehead becomes covered with a profuse sweat, the patient lies in a deep coma and the loud stertorous breathing sets in. The sleep lasts from one quarter of an hour to two hours and sometimes even longer. Then the patient awakens, usually with a headache and a sensation of pronounced fatigue. Amnesia for the time covering the attack exists; less frequently there is a retrograde amnesia. By the headache, by the injury to the tongue or from statements made by witnesses, the patient knows an attack has taken place. In some epileptics the attacks occur only at night (epilepsia nocturna); in a few cases the patients run a distance before they fall. Some patients have a periodic migraine, others in addition to the large attacks have isolated spasms of the diaphragm and unconsciousness (respiratory epilepsy).

Attacks accompanied by loss of consciousness are also encountered. These are made up of transitory paralyses of the extremities, a sudden general muscular weakness with falling as well as brief isolated jerkings in individual muscular territories, such as the eye muscles, facial muscles, etc.

The psychic disorders that occur in epileptics are of the most manifold nature. Most frequently we find:

(1) Dreamy States with Slight Disorder of Consciousness and Impulsive Actions. The latter are characterized by the sudden onset of the impulse and an uncontrollable desire to carry it into execution. Many dangerous acts, such as murder, incendiarism, etc., are committed by epileptics. Other epileptics have attacks of an automatic wandering impulse (poriomania), in consequence of which they often wander about aimlessly for hours and days. Many instances of desertion belong to this category.

(2) States of Depression with Retained Consciousness. Such epileptic depression is characterized by the existence of a pronounced irritability and an explosive affect which not infrequently is produced by the slightest cause and may lead to the most horrible acts of violence. The patients are moody, give vent to hypochondriacal and self-accusatory ideas and often attempt suicide. These states usually pass by rapidly.

(3) Transient States Accompanied by a More or Less Deep Obscuration of Consciousness. These are designated as twilight states and may precede or follow the convulsive attack (pre- and post-epileptic insanity) or may occur without any relation to the attack itself. They constitute the psychic equivalent that has already been mentioned. The severe epileptic mental disorders are mostly post-epileptic, setting in after a severe convulsive attack or after a series of attacks, but they also occur in the form of a psychic epileptic equivalent. The epileptic twilight states manifest themselves under so many different forms that it is impossible to classify them specially. They all, however, have certain common traits which are present to a greater or less extent in the individual attacks. These are:

(a) The onset is acute and is at once present in its full intensity.

(b) The chief symptom is a more or less marked cloudedness of consciousness in consequence of which the patients usually are disoriented, misconstrue their surroundings and distort or do not at all perceive impressions from without.

(c) The cloudedness of consciousness is usually variable in intensity and extent. In one instance there may exist complete confusion with great restlessness, speech disorders, disturbances of motility, states of fear, inhibition of thought and sensory hallucinations of a threatening kind (apprehensive delirium); in another instance there will be a slight obscuration of consciousness accompanied by a joyous hypomanic excitement and distinct incoherence of thought processes; then again there may occur a deep stupor with mutism, automatic movements and catalepsy, or a phase of religious ecstasy; or again a phase of relative lucidity may set in during which the patient seems to be entirely clear, answers specific questions correctly, yet commits the most nonsensical acts.

(d) Sensory deceptions of all kinds as they occur in typical epilepsy accompany the twilight states. They recur with uniformity in all epileptics.

(e) Paranoid and expansive religious ideas of a vague nature are frequent.

(f) The impulsive and often dangerous acts of epileptics represent a reaction to the appalling sense deceptions or are the

consequence of states of fear, or an inimical illusionary distorted view of the surrounding world.

(g) The facial expression usually reflects the obscuration that exists to a greater or less extent. The eyes are staring and wander about inattentively; the states of religious ecstasy are revealed by the facial expression.

(h) Manifestations of motor excitement, tremor of the hands, of the tongue, of the eyelids, slight ataxia, swaying with closed eyes, pupilary differences and increased reflexes may be demonstrated during the twilight states.

(i) After the attack amnesia usually exists. This may be of various degrees of intensity.

In the majority of epileptics there is usually developed a permanent abnormal state which may be designated briefly as the epileptic temperament. It is much more sharply defined than the hysterical temperament and recurs with the greatest monotony and in many epileptics, with a repetition of every small detail. Epileptics are usually irritable, sensitive and burst into paroxysms of anger and rage upon the slightest provocation. Their actions and conduct are generally characterized by a monotonous pedantry; they are excessively polite, often pronouncedly servile, tend toward digressions in speech, making use of high sounding words, stereotyped phrases and not infrequently of word distortions. Often they manifest an ostentatious religiosity. Hysterical traits are frequently present but usually the epileptic becomes entirely dominated by egoistic ideas, while those of an altruistic nature are gradually lost. Withal they are pharisaically just towards themselves and exaggeratedly self-satisfied. The increasing feeble-mindedness narrows their views more and more, the scope of their association processes becomes more and more restricted and little by little their own ego plainly comes into the foreground of their every thought and act. The frequency of the attacks varies widely in different patients. Some epileptics have convulsions but once a year or even at longer intervals, while others have them so frequently that for days they pass directly from one spell into another.

In so far as the prognosis of epilepsy is concerned, we must for practical purposes differentiate between epilepsy occurring early and that which occurs late in life. Early epilepsy is most

frequent and begins before the twentieth year. It leads to feeble-mindedness and idiocy. Late epilepsy either leaves the intelligence essentially intact or it leads to moral feeble-mindedness and the development of the epileptic temperament. Only about six or eight per cent of epileptics recover. Otherwise the prognosis of epilepsy may be embodied in the following statements:

(1) The later in life the attacks set in and the more infrequently they occur, the better will be the prognosis.

(2) The more variable the attacks (large attacks, dizziness, absences), the worse will be the prognosis.

(3) The epileptic attacks of vertigo usually lead to dementia more rapidly than do the large attacks.

(4) The epileptic twilight states generally pass away without causing deeper injury, but they have a tendency to recur and then gradually lead to dementia.

Differential Diagnosis

The term "epilepsy," as used here, applies only to those cases in which the existence of an organic lesion or of an intoxication may be excluded, for typical epileptic convulsive attacks with amnesia are also encountered in the following:

(1) In organic lesions of the brain such as arterial disturbances, brain tumors, brain abscesses (cortical convulsions).

(2) In systemic intoxication (alcohol, lead, acetone and uræmia).

Only after these causes have been excluded can the diagnosis of genuine epilepsy be made. The older the individual at the time of the outbreak of the epilepsy the less probable will be the existence of a genuine epilepsy. More often epilepsy will be confounded with hysteria. The differential diagnosis between hysteria and epilepsy must always be distinct and precise. A hystero-epilepsy, referred to by some authors, does not exist. In such instances mentioned by them, we are usually dealing with true epileptics having hysterical traits. Of prime importance for a differential diagnosis is the determination of the question whether the temperament is an hysterical or an epileptic one. Typical epileptic attacks differ from hysterical ones by the following symptoms.

In hysteria the aura is infrequent, in epilepsy frequent; in

hysteria the attacks begin after psychic excitement, while in epilepsy they set in independently of external causes; in epilepsy the attack is inaugurated by a scream, but as a rule this does not occur in hysteria; in epilepsy there exists marked vascular disturbance accompanied by a deathlike pallor, but in hysteria the vascular spasm is wanting or can be but faintly recognized; epileptic patients suddenly fall to the ground and often injure themselves severely, but hysterics slide down or fall with care and receive no injury; in epilepsy we encounter asphyxia and cyanotic discoloration of the face, but not in hysteria; in epilepsy reflex rigidity of the pupils or sluggishly reacting pupils are the rule, in hysteria the exception; in epilepsy there is tongue biting, but not in hysteria; in epilepsy we encounter involuntary evacuations, in hysteria these are infrequent; in epilepsy *"arc de cercle"* is very rarely present, while in hysteria it always exists; in epilepsy the convulsive attacks consist of simple clonic jerkings, but in hysteria the convulsive movements are extraordinarily diverse; in epilepsy the patient lies in coma breathing stertorously, in hysteria the coma is absent and the breathing is abnormal; in epilepsy the attacks last from one to one and one-half minutes, in hysteria from a quarter to a half an hour and longer; finally in epilepsy there is complete loss of consciousness during the attacks, while in hysteria there is at most a slight cloudiness of consciousness toward the end of the attack.

The states of depression of an epileptic nature differ from other states of depression by the presence of transitory disturbances of consciousness, motor manifestations, typical sense deceptions and paranoid delusions. Disorientation, the peculiar facial expression, abnormalities of the skull as found in epilepsy (hydrocephaly), maximally dilated pupils and other symptoms may aid in arriving at a diagnosis. Epileptic twilight states will transitorily manifest a manic or paranoid coloration, but they can hardly be confounded with manic or paranoiac states.

Forensic Aspects

The offenses against the law committed by epileptics may be deduced from the foregoing description. The emotional insta-

bility, the tendency to outbursts of passion, will easily bring about breach of the peace, injury to property and attacks upon persons. The degeneration that sets in in many instances, and which is so often associated with the moral and intellectual defects dependent upon an abuse of alcohol, makes of these epileptics tramps, habitual thieves, prostitutes and suborners of prostitution. The legal contraventions of epileptics in the order of their frequency, according to Huebner, are forgery, fraud, attacks against persons and sexual crimes.

Of importance for the forensic estimation of all these cases is the fact that the epileptic is not insane because he is an epileptic, but he is always upon the boundary between sanity and insanity and may at any moment pass over the line. There are epileptics who throughout their lives have but occasional convulsive attacks and never any transitory losses of consciousness except those connected with these attacks, and whose responsibility outside of the period immediately preceding or immediately following or during the attack cannot be questioned. Of others there are all kinds, all transitions, leading to the deteriorated and feeble-minded ones who are always and under all circumstances irresponsible. The fact, however, that even those in the category first mentioned do have periods when their consciousness is disordered and in which they are irresponsible makes it imperative to examine every epileptic specially with this in mind.

The twilight states of epilepsy are of the greatest forensic importance, particularly because the patients while in such a state need not appear to be in any way abnormal. Neither by their facial expression, their gait nor their conduct need they attract attention and yet there exists a condition in which consciousness is more or less obscured.

In the majority of instances, however, the disordered state may be recognized by the vague expressionless physiognomy, the unsteadiness of gait and speech and above all by the inequality of the psychic efficiency of such patients, who at one time give perfectly responsible replies and a few seconds later will answer the same questions incorrectly and distractedly.

5. Chorea

Chorea minor (Sydenham's chorea) is often accompanied by psychic anomalies, and sometimes by actual psychoses. The majority of chronic patients show a more or less marked excitability, decided mental instability and an inability to concentrate the attention. They are prone to mental agitation, are difficult to please, tend to extreme emotional outbreaks and sometimes develop all kinds of anti-social traits that are reminded of hysteria (chronic emotional degeneration). Not infrequently we find in them a diminution of mental alertness, weakness of memory, and a certain intellectual inefficiency occasionally accompanied by a peculiar foolish, incongruous behavior (choreic degeneration). In many choreics the psychic obtuseness is shown, if by nothing else, by the slight influence the disease seems to have upon their sense of appreciation of their own illness.

Actual psychoses are comparatively infrequent in chorea. Manic states of excitement with marked incoherence of thought and appalling visions, delirious states with similar illusions and ideas of persecution, as well as states of depression, are occasionally encountered.

Often the psychic disorders disappear when the chorea has been cured. The prognosis of most of the mental disorders that occur in chorea minor is favorable. Some, however, end fatally, particularly the delirious forms.

In Huntington's chorea (chorea chronica progressiva) we also encounter anomalies of character and mental disturbances. This affection often ends in dementia. The prognosis is bad, both as regards the chorea and the accompanying psychosis.

Differential Diagnosis

The diagnosis of chorea is easy. In all cases, but more particularly in those of hemi-chorea, the existence of some organic disease of the brain must be considered.

Certain cases of hysteria may cause difficulty in diagnosis. In these our opinion will sometimes be determined by the anamnesis (rheumatism in chorea) as well as the existence of cardiac involvement (mitral insufficiency) and the peculiar state

of the patellar reflexes that is often found in chorea. The reflex peculiarity just referred to consists in a hypertonicity, the lower leg remaining for a short time in a posture of extension after the patellar tendon has been struck and then sinking gradually back into a pendant position. Of further value in arriving at a definite diagnosis will be the dull, silly temperament of the choreic patient as contrasted with the stigmata and the mobile temperament of the hysteric. The forensic significance of the choreic states should not give rise to difficulties.

III

THE PSYCHOSES OF INVOLUTION

1. Dementia Senilis

Dementia Senilis is a progressive disorder that leads to mental decay, arises around the sixtieth year of life and is accompanied by the physical signs of senility. In a comparatively few cases the psychosis begins before the sixtieth year (dementia senilis præcox). Like dementia paralytica this affection is Protean in its course and may develop under the guise of a simple progressive dementia or under that of a manic, melancholic, paranoiac or other picture of disease.

The course of senile dementia may be divided into three stages:—the initial stage, that of marked dementia, and the terminal stage.

(1) The initial stage may be represented by very different conditions, the most frequent of which are the following:

(a) The psychosis begins insidiously. This is usually the case. Gradually a slight diminution of the entire psychic efficiency becomes noticeable; the patients become less impressionable and less accessible to new ideas, their memory becomes weaker and they are easily fatigued. Bit by bit an alteration in character sets in; some patients become querulous, irritable and egoistic, while others become lachrymose, lose their self-control, get excited about every trifle and like children become obstinate and angry whenever their will is opposed. Morally also the decadence is manifest; the patients become indecent, lascivious and not infrequently commit offenses against public decency. Immoral behavior with children and exhibitionism are, so to say, typical of senile dementia. Drunkenness in some cases and intolerance to alcohol in others are also common initial symptoms of senile dementia.

(b) In other instances, and these are not infrequent, demen-

tia sets in with a marked state of depression, often remindful of melancholia. A deep sorrowful mood, ideas of sinfulness, fears and hallucinations of hearing may be present.

(c) The beginning is often associated with a mild depression and numerous hypochondriacal complaints and illusions.

(d) In certain instances senile dementia begins with a pronounced paranoiac symptom complex. The patients become depressively suspicious and reserved. They express notions of persecution and believe they have been robbed or poisoned and that their lives are to be endangered. Sense deceptions almost always accompany the delusions.

(e) The psychosis may also begin under the guise of a hypomanic state of excitement, but this is less frequent.

All these varied initial states of senile dementia receive their special impress from the senile mental enfeeblement that sooner or later becomes noticeable. This is characterized in particular by the marked disorder of memory for recent events, frequently associated with a pronounced tendency to confabulations, while the old memory store often remains unaffected for an astonishingly long time. Equally striking are the emotional disturbances which, according to the existing psychic state, constitute a foolish, childish euphoria, a stupid apathy, an exalted irritability or a deep melancholia. Finally we will note a lack of judgment that manifests itself in absurd, uncritical delusions, feebleness of will power and an abatement of the finer ethical perceptions.

(2) The initial phase may continue for a long or a short period and then the stage of well defined dementia is reached. The memory for recent events becomes entirely extinguished and the memory for the distant past dwindles more and more. The conceptual and expressional store becomes more and more restricted; the patient forgets his own age and the year of his birth and becomes permanently disoriented both as to time and place. Some patients may, notwithstanding their decided dementia, preserve a comportment that is outwardly correct; their association with those about them is faultless, their manner of living is a regular one, they read their papers, play cards and act like any perfectly normal old person; still their judgment is untrustworthy, they are disoriented and have no power of determination. As compared with simple dementia,

pronounced disorders are much more frequent, and these may be summarized as follows:

(a) In very many senile dements there exists a noticeable difference between the conduct during the day and the conduct during the night. In the daytime they are quiet, fairly well oriented and somnolent, but at night they become restless, sleepless, often completely disoriented and confused and not infrequently dominated by hallucinations.

(b) In others, and particularly during the night, delirious states with sense deceptions set in. The patients are very restless, wander about, misconstrue their surroundings in the sense of situations that have existed years ago, and when confronted with their errors show a pronounced tendency toward adventuresome confabulations. When the symptom complex (amnesia, disorders of memory for recent events, confabulations) has been fully developed, these cases are spoken of as senile Korsakoff's psychosis. During the daytime such patients are often remarkably collected, and amnesia for the delirious experiences of the night usually exists. This symptom complex of senile Korsakoff's psychosis is preeminently encountered in senile dementia with focal lesions.

(c) In still other patients we find prolonged states of excitement accompanied by bewilderment which are very similar to an acute hallucinatory confusion. The patients suffer from motor agitation, are completely disoriented, constantly hallucinating and give expression to a mass of paranoiac and expansive delusions. These states lead, either through exhaustion or a refusal to take food, directly to death, or else they disappear suddenly and give way to a state of relative clearness which afterward passes gradually over into a more pronounced dementia.

(d) The term "senile confusion" is applied to the most marked senile mental disease. In this the memory and the intelligence as well are so markedly reduced that the patients appear to be suffering from paresis. They no longer recognize their relatives and are completely disoriented, not knowing when or where they were born or whether they are married, have children, etc.; their expressional store comprises a few words which are constantly repeated; they are unable to find

their own homes, rooms or beds, and lose themselves on the street or even in their own houses. The most simple arithmetical calculations can no longer be carried out, and the most elementary geographical and historical facts have passed from their recollection. Usually all kinds of vague delusions, paranoid, expansive, hypochondriacal and depressive in nature, may be demonstrated to exist. These are always nonsensical and uncritical. Not infrequent are aphasic disorders, more particularly the loss of nouns. Often also we observe in these senile dements a typical collecting mania, in which all imaginable kinds of valueless objects, scraps of paper, pebbles, etc., are accumulated. Their mood is usually apathetic or childishly euphoric.

The stage of paranoid dementia is almost always accompanied by somatic symptoms of senility. Beside the external habitus of the aged, the arcus senilis, the opacities of the lens, general motor weakness and arteriosclerosis, we encounter senile tremor (shaky handwriting, etc.), hemi-paresis, attacks of dizziness and faintness, pupils that are sluggish or reactionless to light, and increased reflexes.

Attacks of dizziness occur more particularly in the morning, after arising. Patients who take a rest during the day often experience brief states of confusion and disorientation upon getting up. Apoplectic attacks leading to aphasia and hemiplegia are frequent. Disorders of the functions of the bladder and rectum are often present. Appetite and digestion are extraordinarily good in many senile dements.

(3) In the third or terminal stage, deep dementia is present and, with increasing bodily decay, death supervenes. The progress of senile dementia usually covers a period of from five to ten years but death may occur in less than three years from the time of the onset of the first symptom. Under all circumstances the prognosis is infaust.

Differential Diagnosis

The differential diagnosis of senile dementia must be made from the following:

(1) **Paresis.** Pupilary rigidity, speech disorders, defects of intelligence, immorality and other symptoms are encountered

in paresis as well as in senile dementia. Nevertheless we must note the following distinctions:

(a) Senile dementia occurs at an advanced age, one at which paresis is exceptional.

(b) The course of senile dementia is slower and more benign than that of paresis.

(c) The disorders of memory in senile dementia are characterized by a preponderant weakness for recent events, while the recollection for the more distant past is relatively well preserved and, during the initial stages, particularly so for facts acquired in school. The memory of paretics on the other hand becomes affected fairly equably for occurrences of the recent past and for those more remote, and this disorder covers particularly the elementary facts of school knowledge.

(d) Associated movements in the distribution of the facial nerves are infrequent in senile dementia; nor do the other motor disturbances that may be present attain the same degree and extent as in paresis.

(e) Cataract, arcus senilis, pronounced arteriosclerosis, difficulty in hearing and the other bodily symptoms of senility, particularly when present in combination, speak for senile dementia.

(f) Senile tremor usually differs distinctly from the tremorous ataxia of paresis. Notions of grandeur are less frequent in senile dementia than in paresis.

(2) Melancholia. The anterograde disorders of memory, the early onset of defective judgment, the more advanced age and the bodily signs of senility differentiate senile dementia from melancholia. In this connection, of course, only those forms of senile dementia that have a melancholic initial stage can cause any diagnostic difficulty.

(3) The Pre-Senile Paranoid State. Details for the establishment of this diagnosis will be found in the following chapter.

(4) Manic Depressive Insanity. The commencement of this trouble in advanced age is very rare. When it does occur, the question will be one of differentiating the manic phase from a senile mania and the melancholic phase from senile depression. In senile dementia the cardinal symptoms of the manic or of the depressive phase of circular insanity are but incom-

pletely developed; on the other hand mental enfeeblement, which is absent in manic depressive insanity, is clearly demonstrated.

(5) Hallucinatory Confusion. This state may also occur in old age and result in recovery. It may be confounded with the delirious confusional states of senile dementia. The course of the disease will establish the diagnosis with certainty.

Forensic Aspects

Criminal offenses by senile dements are not of frequent occurrence. Those that occur most often are sexual delinquencies, small thievery, perjury and occasionally personal injury as a result of delusions of jealousy.

If it be remembered that deviations of an ethical nature, particularly in the sexual domain, are amongst the earliest signs of senile involution, such happenings will but rarely be misinterpreted. Not only sexual excesses and offenses against decency, but also promises to marry and even marriage itself are not infrequent results of the perversions of sexual sense that occur in old age.

Questions relating to the establishment of guardianship and to testamentary capacity are very much more complicated and difficult to decide. The capability of making a valid testament certainly cannot be denied to the old person with physiologically enfeebled mentality, but in every instance in which such enfeeblement is marked and pathological it will be necessary to determine how much mentality still exists and how much has been lost. Particularly in the case of enfeebled will power must the possibility of undue influence be considered.

2. Pre-Senile Paranoid Insanity

Pre-senile paranoid insanity is a rare form of mental disease. It represents a symptom complex similar to that of paranoia, develops during the fifth decade of life and occurs chiefly in women. The commencement of the psychosis may be entirely like the initial stage of paranoia. The patients are depressed and suspicious. Later in the course of the disease delusions set in which may be distinguished from those of true paranoia by the following characteristics:

(1) From their inception they are absurd and fanciful to the point of weakmindedness. The patient believes a band of robbers is dwelling in the cellar of the institution and plying their infamous trade therefrom; that they are slaughtering the patient's children, intercepting her mail, attempting to put poison in her food, to let out her brains or to deprive her of her sexual organs.

(2) The persecutory notions of pre-senile individuals are constantly changing and do not become combined into a fixed delusional system. Now one, and now another delusion appears upon the scene.

(3) The delusional notions of pre-senile individuals up to a certain degree are susceptible of correction, or at least, the patients may often be talked out of their delusions. True, when this is done, new delusions arise to take their place.

(4) Very often the idea of marital infidelity on the part of husband or wife stands out prominently in the variegated mass of paranoid delusions.

(5) Ideas of persecution of pre-senile individuals have no mandatory influence upon their conduct. A true paranoic character is not developed. The pre-senile paranoiacs usually remain harmless and often associate in a most amicable manner with their supposed enemies or with the conjugal partner, by whom they believe themselves to be persecuted or deceived. Patients of this type always remain passive toward their persecutors.

(6) Sense deceptions, more particularly hallucinations of hearing, may be present but they play no marked rôle. All in all, the disease reminds one of some cases of dementia præcox except that older individuals are the victims.

The prognosis is unfavorable. Although the process does not lead to actual dementia, an increasing enfeeblement of judgment and an increasing irritability develop, and the delusions persist unchanged.

Differential Diagnosis

Pre-senile paranoid insanity must be differentiated from the following:

(1) **Paranoia.** The signs we have already mentioned as

characteristic of the delusions of the pre-senile paranoiac speak against a true paranoia. The age also, as well as the early onset of the enfeeblement of judgment, speaks for a pre-senile paranoiac state.

(2) A Beginning Senile Dementia. The diagnosis in senile dementia is based upon the disorders of memory and intelligence and upon the pronounced dimming of thought process and of orientation, as well as upon the progressive dementia. The pre-senile paranoiac usually remains permanently upon a certain unvarying plane of outward collectedness and proper social behavior, while the senile dement sinks deeper and deeper.

(3) Paresis. Exceptionally a late paresis may present the psychic symptom complex of the pre-senile paranoid state. In such instances, however, the signs of organic lesion as well as the existing defects of intelligence will make the diagnosis of paresis possible.

3. Hystero-Hypochondriasis

Hystero-hypochondriasis is not recognized by some writers as an independent psychosis. Nevertheless it must be acknowledged that this term covers a well characterized picture of disease that is often observed. As a matter of practical convenience, it will therefore be well to devote a special chapter to this affection.

Hystero-hypochondriasis always develops at a rather advanced period of life, in women around the climacterium, and in men about the fiftieth year of life. It represents a typical variety of melancholia and for this reason has been designated by French writers as *"mélancolie hypochondrique."* Not infrequently it arises upon the basis of an hysterical temperament. It is characterized by three series of symptoms, closely intertwined, which may be classified as follows:

(1) The Symptoms of Hypochondriasis. These usually mark the beginning of the psychosis. The patients have all kinds of neurasthenic complaints, headaches, palpitation and sleeplessness; they occupy themselves much with their own bodies, examine their abdomens, carefully look at and palpate all parts of the body, test urine and feces, read popular medical works and consult one physician after another. Soon abnormal sen-

sations, fear and trembling set in; the patients have all kinds of apprehension; they become depressed, unable to work and lose interest in life. More and more the hypochondriacal delusions develop; the patients believe themselves afflicted with a severe incurable disease, such as heretofore has never been known to exist in any human being and for this reason must be an enigma to every physician. The fixation of this idea represents the full development of the disease and then we find the following symptoms:

(a) The hypochondriacal delusions constitute the kernel of the disease. Thus a patient will say, "My insides are being dissolved, my body is entirely empty; all my entrails have gone and now the bones are going the same way. The worst of it all is that nothing of this can be noticed from without, so that no human being, not even the greatest physician, can tell how sick I am." It is by their incorrigibility that the hypochondriacal notions prove themselves to be delusions. They fixate themselves more and more during the course of the disease and ultimately take on a noticeable monotonous aspect.

(b) The hypochondriacal delusions constantly receive fresh nourishment from the numerous abnormal sensations in the skin and the internal organs, which the patients expand in a delusional and hypochondriacal manner. Pains, creeping and other sensations are complained of and are usually entirely uninfluenced by any means of treatment.

(c) The conceptual circle at the height of the psychosis is markedly restricted and is concentrated entirely upon the patient's own self. The patients develop an egotism that is typical of hypochondriasis, become indifferent to everything unrelated to their disease and are able to view only with envy and sorrow the contentment of others. The hypochondriac occupies himself solely with his disease and his main desire is to find an auditor to whom he can pour forth his complaints. All his lamentations, however, bring him no relief.

(d) The will power becomes increasingly enfeebled; the patients become incapable of any kind of work, sit immovable for hours at a time, or else wander restlessly about, sighing and complaining.

(2) The Symptoms of Melancholia.

(a) The patients show a sorrowful depression that is en-

tirely similar to that of melancholia and may augment itself into a state of fear. They are deeply unhappy, bewail the impotence of medical science and constantly reiterate their tales of woe. The facial expression may be that of a typical melancholia. Not infrequently the hystero-hypochondriac will commit suicide.

(b) Notions of sinfulness are not uncommon but they are always subordinate to the hypochondriacal ones. Sometimes they furnish the patients with an explanation for their sufferings and distress, the assumption being that their suffering represents just punishment for their sins.

(3) The Symptoms Resembling the Hysterical Character. These consist in a marked proclivity for exaggeration and wilful deception and in a pronounced need for attention and sympathy. When these patients have slept well, they claim not to have closed an eye; after they have eaten well (and most hypochondriacs really enjoy the pleasures of the table), they strenuously deny having done so. Some of them take their food surreptitiously, when they believe themselves to be unobserved, in order later to complain of their total loss of appetite. Often the slightest touch on the body causes them to complain of pain. Difficulty in swallowing and in breathing, singultus, meteorism, tachycardia, gastralgia and other hyperæsthetic and hysterical symptoms are not infrequent.

Typical of all hystero-hypochondriacs is an extraordinary psychogenetic augmentation of all symptoms, setting in whenever these patients are being observed or when they are being examined by a physician. Then all symptoms are manifestly exaggerated. Marked tremor, rudimentary hysterical attacks, swaying of the body with a tendency to fall, jerking movements of the head, respiratory spasms, sweating, tonelessness of the voice and other symptoms similar to those of hysteria set in, but they soon diminish and pass away once the observation of the patient has ceased.

The course of hystero-hypochondriasis covers a period of years. The prognosis is not good. Mere remissions that interrupt the disease for hours, days or even weeks do occur; but even in such periods there is no difficulty in establishing the presence and incorrigibility of the same hypochondriacal delusions that had previously been present.

Differential Diagnosis

The differential diagnosis of hystero-hypochondriasis must be made from the following:

(1) Hysteria. True hysterics differ from hystero-hypochondriacs by their suggestibility, by their greater emotional changeability, and by the presence of hysterical stigmata.

(2) Melancholia. The fear of the hystero-hypochondriac is less constant, the psycho-motor inhibition and the retardation of thought processes are wanting, his self-accusations and his notions of sinfulness occupy a less prominent position in the picture of disease. Remissions, during which all the symptoms of the disease disappear, often occur in hystero-hypochondriasis, but never in melancholia. Unlike the melancholiac, the hystero-hypochondriac usually takes ample nourishment.

(3) Paranoia. In some hystero-hypochondriacs single vague, paranoiac ideas loom up from time to time. These are never systematized and exert no influence upon the patient's conduct. Uncomplicated deceptions of skin and body sensations are encountered only in hystero-hypochondriacs; when present in paranoiacs they are accompanied at least by hallucinations of hearing.

IV

THE INTOXICATION PSYCHOSES

1. Alcoholism

Typical of alcoholic stimulation in every instance is an increased facility of flow of the psycho-motor impulses, manifesting itself in augmented physical activity and in diminished intellectual efficiency, the latter being reflected in a loss of the finer inhibitions, an increase of self-confidence, a tendency to farcical joking and a predominance of the baser instincts. In so far as the pathological action of alcohol (intoxication) is concerned, we must distinguish pathological states of inebriety, delirium tremens, acute hallucinosis of drinkers, Korsakoff's psychoses, chronic alcoholism and alcoholic paranoia.

A. Pathological States of Inebriety

From a strictly scientific viewpoint, every inebriety is a mental disorder and is therefore pathological; consequently the expression "normal inebriety" is really a *contradictio in adjecto*. But for practical and more especially for forensic reasons, it is advisable that a differentiation between normal and pathological inebriety should be made.

A pathological state of inebriety is one that is accompanied by pathological manifestations which are not typical of a simple state of intoxication. It may be produced by very large quantities of alcohol or, when an intolerance to alcohol exists, by small or medium amounts. It occurs solely upon the basis of a psychopathic constitution, congenital or acquired.

It is above all the degenerate, feeble-minded, epileptic hysteric, neurasthenic, paretic or senile patient who is subject to such pathological states of inebriety. They manifest themselves in sudden pronounced affects with motor discharges of blind rage, in deep depression accompanied by vivid feelings of fear, in

stormy, manic-like excitement, confusion with sense deceptions, delusional notions and false recognition of persons, as well as in other psychotic states usually of short duration. After the attack a deep sleep often supervenes and upon awakening the memory for the events that have been experienced is usually defective. Sometimes complete amnesia exists.

These states of pathological inebriety are of great forensic importance and for this reason the physician must be conversant with them. Many of the so-called alcoholic crimes, injury to person, homicides and suicides, take place in the affect of fear that accompanies a pathological state of inebriety. To know this is quite as important for the jurist as it is for the physician. The diagnosis of such a state presupposes the existence of:

(1) **Deep Intoxication.** The presence of pupilary rigidity is of decisive significance for the determination of this condition.

(2) **Intolerance to Alcohol.** This can be proven experimentally.

(3) **Abnormal Psychotic Symptoms**—attacks of fear, sense deceptions, confusions and, after the attack, amnesia.

B. DELIRIUM TREMENS

Delirium tremens is an acute psychosis in chronic alcoholics (more particularly in drinkers of strong spirits) characterized by disorientation (confusion) as to time and place, by typical sense deceptions and tremor. Every delirium tremens may be divided into three phases:

(1) The actual outbreak of the delirium is usually preceded by prodromal manifestations. At night the patients pass into an excited state, become sleepless, restless and apprehensive; occasionally states of fear accompanied by profuse outbreaks of perspiration set in, during which the patients are often befuddled and disoriented. Then, though at first only in the night, single sense deceptions, the typical animal visions set in. During the daytime the patients are mostly clear but more excitable than usual, ill-tempered and bewildered. In not a few cases the outbreak of the delirium tremens is preceded by one or more epileptic attacks. Where this happens we are dealing either with an epileptic in whom the alcoholic delirium is

episodic, or with a chronic alcoholic in whom the epilepsy is symptomatic. In other cases all prodromal manifestations may be wanting; nor is it essential that an alcoholic excess should have directly preceded the outbreak of the delirium.

(2) The height of the attacks is represented by a picture so typical that, once seen, it will always be recognized. We observe a restless anxiety, as well as the lax, coarse, bloated traits so characteristic of chronic alcoholism, markedly injected conjunctivæ, flattened naso-labial folds, and not infrequently weakness of the facial musculature. First in evidence is the pronounced tremor, which more or less affects the entire body, so the patient can hardly retain his equilibrium. The tremor is a rapid one (eight to ten oscillations per second) and is strongest in the lips, tongue and hands. It persists during rest and increases upon voluntary movement. The patient pays no attention to his surroundings, bundles up his bed coverings and fumbles them about. He passes his hands restlessly over them as though he were trying to brush something away, rivets his attention upon the walls, looks under the bed and clearly shows he is occupied with visionary objects. Now and then an apprehensive excitement sets in, the patient throws himself against the wall and with the force of despair tries to keep it from falling upon him, even shouting for help. From his talk we can readily see he believes himself to be in his accustomed surroundings and from the manner in which this mistaken recognition manifests itself, we are not infrequently able to deduce the nature of the patient's every-day occupation.

From objective signs, such as sitting up and listening, threatening, scolding, and sudden outbreaks of excitement, it is not difficult to recognize the patient has sense deceptions. These are predominantly visual ones, but auditory and tactile hallucinations are not infrequent. Typical features of alcoholic delirium are the following:

(a) A mistaken recognition of the actual situation, arising from the associative intertwining of the auditory and visual hallucinations. The patients fail to recognize they are in a hospital but believe themselves to be in their usual surroundings, among their relatives and friends, whose voices they hear. The physicians and nurses, strangers to them, are saluted as old acquaintances. The hallucinated situation usually corresponds

to the daily occupation of the hallucinant; the waiter in his delirium believes himself to be in his restaurant, the fisherman sees water with fishes, etc.

(b) The animal visions. The visionary animals are never at rest. The patient sees and busies himself with mice, rats, and larger animals. These visions may easily be aroused by suggestive means. For instance, when the sufferer from alcoholic delirium is shown certain spots upon the wall and is asked to watch them closely, he will soon take them to be spiders, bugs or similar creatures.

(c) The tactile sense deceptions. These are frequent and for the most part consist in the feeling that small animals are crawling under the skin. Actual pains, probably of a neuritic origin, are also present and give rise to the sensation of being bitten or stung.

Hallucinations of hearing play but a subordinate rôle. They almost always constitute merely a supplement to the hallucinated situation. The delirious patient, believing himself to be employed at his usual occupation, hears voices of relatives and acquaintances and converses with them regarding the happenings of the day. He is fully oriented up to the beginning of the delusions and gives accurate information regarding himself and his entire past up to that time. His retrograde memory therefore is entirely intact, but his anterograde memory shows manifest incisive disturbances. For instance, no matter how often he may be enlightened, he is permanently disoriented as to time and place from the time of the delirium, and, as may easily be demonstrated experimentally, he forgets everything that occurs during this time. As a result he evolves the characteristic confabulations. The delirium usually attains its maximum intensity upon the third day. The patients by that time are in a state of constant motor restlessness and the most marked symptoms are frequent states of fear, sudden spells of fright, constant profuse sweating, general tremor, ataxia of the extremities, unsteadiness of speech and sense disturbances.

In many instances toward the end of the delirium a peculiar euphoric state sets in. The duration of the delirium tremens averages four days, during which time complete sleeplessness is the rule. Upon the last day the hallucinations pass away, the patient is manifestly exhausted and sinks into a deep sleep.

(3) This sleep represents the crisis of the affection and lasts from ten to twelve hours or longer. When the patient awakens his collectedness has returned and his orientation is reestablished. Then the recollection for individual things that have taken place during the delirium is often well defined but, all in all, is rather vague. Complete amnesia is rare. It occurs usually only in the delirium that accompanies or follows epileptic attacks. After the passing of the delirium, single delirious experiences are still believed to be actual occurrences. The tremor does not disappear until four to six days after the critical sleep.

It remains to be noted that in at least one-half of all patients suffering from delirium tremens, transitory albuminuria, usually of slight degree and ending with the passing of the delirium, is found to exist. A large number of sufferers from delirium tremens also have some febrile affection of the respiratory tract. The usual complication is pneumonia. In such instances the delirium generally makes its first appearance upon the third or fourth day of the pneumonia. The prognosis of alcoholic delirium complicated by pneumonia is unfavorable. Ten to fifteen per cent of patients thus affected die.

Differential Diagnosis

A typical delirium tremens cannot be confounded with any other psychosis. There are, however, a number of cases that deviate to a greater or less extent from the pure alcoholic delirium and therefore must be designated as atypical deliriums. These are:

(1) The Deliriums Accompanied or Preceded by Epileptic Spells. They are characterized by deep cloudedness of consciousness, by the occurrence of isolated delusions, and by the monotony and inhibition of the thought processes, which in the patient suffering from a typical delirium are flighty and easily deflected. Other characteristics are single hallucinations of taste and smell, the frequently occurring inimical misinterpretations of the surroundings and the occasional impulsive reactions. The post-delirious amnesia is usually more intense than in the typical alcoholic delirium.

(2) The Severe Deliriums with Meningitic Manifestations. These are accompanied by high fever. In this *delirium tremens febrile,* the knee jerks may be absent and palsies of ocular muscles and other cerebral symptoms may be present. In very doubtful cases the anamnesis should serve to establish the correct, though difficult, diagnosis.

C. ACUTE HALLUCINOSIS OF DRINKERS

Acute alcoholic hallucinosis is a psychosis characterized by numerous hallucinations of hearing and by the rapid development of connected paranoiac delusions with complete preservation of orientation. It has various symptoms in common with delirium tremens. Like the latter it develops upon a basis of chronic alcoholism, usually begins acutely, runs a rapid course of a few days or weeks, and ends, at any rate when we are dealing with a first attack, in complete recovery. Weakened facial innervation, light palsies, tremor and neuritic symptoms are present as in alcoholic delirium, but acute hallucinosis differs from the latter essentially by the following symptoms.

(1) While in delirium tremens it is the visual hallucinations that occupy the foreground, in acute hallucinosis the auditory hallucinations are most frequent. It is with these that the psychosis usually begins. They are profuse and of a threatening, vituperative nature, usually reflecting upon the patient's dissolute mode of life. Often they are particularly characterized as follows:

(a) By the number and simultaneity of the voices (beggar, drunk, gutter-snipe, etc.).

(b) By the marked rhythmical monotony of what the voices say, like, "You are a beast, you are a beast," repeated and repeated in an unvarying tone of voice and with unchangeable emphasis.

(c) Not infrequently the hallucinations form connected conversations of several voices that talk about the patient in a derisive manner and to which the patient himself is merely an inactive listener.

(d) Less frequent is thought audition.

(2) The second fundamental symptom of acute hallucinosis is represented by the paranoiac delusions that occur in a more or

less systematized manner, are initiated by superficial reasons and are often subject to rapid changes. Here we find:

(a) Aspersive delusions very frequently present, especially in the beginning of the psychosis.

(b) A more or less logically connected chain of persecutory ideas—for instance, the patient will say, "The voices are those of wicked enemies. It is a band of villains, a secret society. They can fly through the air without being seen. It is an association of invisible persons, I am to be killed because I am said to have revealed their secrets."

(c) Occasionally also delusions of jealousy manifest themselves.

The psychosis begins and is accompanied by pronounced affects of fear, during which the patients, tormented by voices, not infrequently appeal to the police for protection, or even commit suicide. Very often the apprehension is particularly pronounced in certain hallucinations, the patients for instance hearing a constant firing of guns and seeing their enemies aiming at them. Besides the auditory hallucinations, visions of animals, as of scorpions, weasels, small bears, etc., are exceptionally present. Tactile hallucinations are not uncommon.

Actual delusions of grandeur are unusual and when they do occur are of no diagnostic significance. Often we meet with a transitory exalted self-appreciation that receives its special alcoholic impress from a humoristically tinged euphoria.

The differential diagnosis of this acute hallucinosis from delirium tremens and paranoia becomes clear from what we have already said. It should be particularly noted that paranoiac delusions occur in acute alcoholic hallucinosis but not in delirium tremens, while disorientation, disorders of attentiveness, disorders of memory for recent events, confabulations and the erroneous recognition of conditions are met with in delirium tremens and not in acute alcoholic hallucinosis.

D. KORSAKOFF'S PSYCHOSIS

The chronic alcoholic delirium first described by Korsakoff is known also as polyneuritic psychosis. It develops most frequently in chronic alcoholics after severe excesses in drinking. In the commencement there is present either a multiple neuritis

that is followed by a phase of acute delirium, or a more or less atypical delirium in the course of which symptoms of polyneuritis set in. The initial delirious phase, however, does not pass directly from the typical sleep into recovery as in ordinary alcoholic delirium, but goes over into a chronic state, so that in the course of several weeks the pronounced symptom complex of Korsakoff's psychosis is developed.

The patient who in the beginning, especially at night, still manifested symptoms of delirium, becomes quiet and outwardly composed, but the emotional state is a peculiar one. Ordinarily there exists a marked apathy, interrupted only at times by a plaintive lachrymose behavior or by causeless euphoria. The outward comportment of the patient is perfectly correct and would not lead one to assume the existence of any more deeply lying disorder. The cardinal symptoms of Korsakoff's psychosis at its height are the following:

(1) The most noticeable is the pronounced disorder of the capacity for acquiring new knowledge, as shown by the defects of memory for recent events. The patients do not know where they are, do not recognize their surroundings and therefore constantly make erroneous statements in regard to time, place and recent happenings. After they have been accurately instructed and completely oriented, they will within a few minutes have forgotten all that has been told them and repeat the previous erroneous statements. Similarly everything that takes place in their presence passes by them without effect. Hence these patients also lose all conception of the sequence of events; they have no idea how long they have been where they are, they lose every consideration of the flight of time and often do not know whether it is day or night.

(2) In addition to the pronounced disorder of recollection for recent events, there exists usually a more or less far-reaching retrograde amnesia which may cover a period antedating the delusions by months and even years. The entire affected period then is virtually wiped from the memory; the patients have forgotten even the most important personal experiences, the most noteworthy political happenings of the age, and know nothing of their marriage, of the death of their relatives and other incidents of their lives, provided these occurrences have fallen within the scope of the period covered by the amnesia.

Sometimes they believe themselves to be in some other period of their lives, the confines of which are not reached by the anterograde amnesia. Thus one of my patients, a professor at a university, believed himself still to be a student at the college from which he was graduated.

(3) The patients endeavor to conceal these marked defects of memory by persistent, but always different confabulations. When asked a question they are never embarrassed for an answer, but the reply they give clearly bears the impress of confabulation. The next moment, however, this confabulation has been forgotten and a repetition of the same question will elicit another and equally novel canard. In many instances this characteristic of confabulation is so pronounced that it occupies the foreground of the entire picture. The patients recount the most adventurous experiences, most fantastically adorned and not infrequently bearing so grandiose an impress that they resemble the notions of the paretic. But the experiences of the distant past that have not been affected by the amnesia are reported correctly and concisely. In other ways, also, the power of thought is generally unaffected.

The outcome of the psychosis of Korsakoff is a varying one. Complete recovery is infrequent. Usually after a duration of months or years the chief symptoms fade away while a state of mental enfeeblement persists.

Differential Diagnosis

Where the symptom complex of this psychosis is fully developed a differentiation may have to be made from the following:

(1) **Dementia Paralytica.** The neuritic symptoms, the palsies and paralyses of peripheral and cranial nerves, the muscular atrophies with reaction of degeneration, the weakness or absence of the knee jerks, and the disorders of speech and sensation, all of which are present in the beginning and in the early stages of Korsakoff's psychosis, may in conjunction with the psychic symptoms, anterograde and retrograde affection of the memory, resemble the picture of dementia paralytica. Even pupilary rigidity is encountered in pronounced alcoholic intoxication. An anamnesis showing the existence of marked

alcoholic excesses, an onset with a delusional phase, the peculiar disorder of memory, and the course and outcome will determine the diagnosis. In the majority of instances a certain amelioration will set in and the condition then remains at least stationary. In dementia paralytica on the other hand, constant deterioration takes place.

(2) Dementia Senilis. In senility, too, disorders of memory for recent events, a tendency to confabulations and amnesia are encountered. This symptom complex, however, is generally the result of an existing senile dementia and differs from chronic alcoholic delirium by the absence of neuritic symptoms, by the signs of senility and by its occurrence in spells, which usually supervene at night.

E. CHRONIC ALCOHOLISM

Chronic alcoholics or habitual drinkers usually have a facial expression so characteristic that the diagnosis can present no difficulty even to the non-alienist. The relaxed bloated traits and the sodden face, with superficial or obliterated furrows, the injected conjunctivæ, the more or less prominent, dull, suffused eyes and the marks of premature old age are most always pronounced and unmistakable. Psychotically, chronic alcoholism is characterized in the following manner:

(1) Above all, it is the intellect that suffers from the persistent alcoholic poisoning. The patients become more and more incapable of regular, persistent work and they tire easily. At the same time their will power becomes more and more enfeebled until finally their energy wanes to such an extent that even when their intelligence still permits, they are unable to arouse themselves to any positive action. It is precisely in this early and persistent palsy of the will that the danger of chronic alcoholism lies. The habitual drinkers sink lower and lower in the social scale and while in the beginning there is present a certain humorous and satirical appreciation of the situation, there develops later that complete lack of insight and appreciation for the weakened condition that is so thoroughly characteristic of the deteriorated alcoholic.

(2) The memory suffers in an augmenting degree. It is not

only the faculty to gather and retain new impressions, but also the recollection for the far distant past that is impaired.

(3) The decline in intellectual power is associated with a moral degeneration of greater or lesser degree. The chronic alcoholics neglect their duties and their families without fear or shame, disregard the requirements of custom and breeding and become indifferent to the censure and disdain with which they are treated. The alcohol obliterates all the better instincts they may have, until finally, all sense of propriety being lost, the victims are governed solely by their desire for drink, notwithstanding the fact that a steady decrease in their tolerance of the poison has set in. In nearly all chronic alcoholics there are developed certain peculiarities of temperament that may fittingly be designated as constituting the character of the habitual drinker. These alcoholics always show two sides, the one representing their conduct in their own homes and the other their behavior in the club or saloon. At home they are tyrants who by threats and brutality seek to regain the respect they have forfeited; or else they are entirely irresolute, and, whiningly and whimperingly, they endeavor by means of hypocritical promises and flagrant lies to obtain more money with which to purchase drink. In the drinking place, on the contrary, they show their most amiable side; their mood is elated, manifesting itself in cynical inane jokes, vapid boastfulness and imbecile confabulations. Those two kinds of behavior, totally different as they are, represent the effect of alcoholic abstinence upon the one hand and renewed intoxication upon the other.

(4) Characteristic of all chronic alcoholics is the complete lack of appreciation of their own deplorable state. These patients are convinced of their own importance, are exaggeratedly self-satisfied and for this reason cannot comprehend why their relatives should condemn them. They see everything in a different light, distort everything to make it appear to their own advantage and in so doing not infrequently manifest considerable readiness and skill.

In many chronic alcoholics epileptic attacks set in, but these may disappear after a long period of abstinence. Where the attacks persist we are dealing with epileptic individuals or with

such as are epileptically predisposed and in whom the alcohol acts as the exciting cause.

In general the diagnosis of chronic alcoholism is easy. The anamnesis in itself will easily enable us to arrive at a decision. In addition to the psychotic symptoms of deterioration the physical symptoms will aid us. These are tremor, gastric disturbances, disorders of the heart, liver and nervous system, arteriosclerosis, neuritic symptoms, sluggishly reacting pupils, etc.

All in all the prognosis of chronic alcoholism is bad. Wheresoever an incorrigible misjudgment of the existing situation has set in, with failure by the patients to recognize their own condition, improvement or recovery can no longer be expected. In such cases we are dealing with a dementia, the sufferers from which are no longer to be looked upon and treated as "simple deteriorates," but as insane individuals.

Differential Diagnosis

In some instances the differential diagnosis between chronic alcoholism and dementia paralytica may present difficulties. Marked dementia, absent knee jerks, pupilary rigidity, convulsive attacks and other symptoms of paresis may create a suspicion of the existence of this disease. But the anamnesis with the absence of any indication of a luetic infection, as well as the slight progression and the more or less far-reaching remissions during the periods when no alcohol is taken, will, after prolonged observation, enable a correct diagnosis to be made.

Not infrequently paretics give themselves up to alcoholic debauches. Then the alcoholism is merely a symptom of paresis and even prolonged total abstinence will be unaccompanied by an improvement in the patient's condition. The disease takes its inevitable course.

F. ALCOHOLIC PARANOIA

In not a few chronic alcoholics, paranoiac delusions of a more or less systematized nature develop. Most frequent is the delusion of jealousy. The aversion which the marital consort so often experiences toward the more and more deteriorating alcoholic, the sexual impotence that follows the long use of

alcohol and the marked enfeeblement of judgment constitute the basis upon which these delusions develop. All kinds of insignificant occurrences furnish the nutriment for the notion of jealousy until finally the patients are convinced of the infidelity of their conjugal partners. Gross maltreatment, dangerous physical injury or murder are the resulting offenses. This delusion of jealousy in chronic alcoholics presents a bad prognosis. Prolonged abstinence may produce remissions, but recovery is exceptional. Besides the notion of jealousy, other paranoid semblances may be present in chronic alcoholics. Thus not infrequently delusions of being poisoned combined with hypochondriacal notions are encountered.

We occasionally meet with pure delusions of jealousy which are not part of a paranoia and for which an alcoholic genesis can with certainty be excluded. The hallucinations that as a rule accompany the delusions of jealousy of the alcoholic are not present in such cases.

Forensic Aspects

The forensic significance of Korsakoff's psychosis is to be sought mainly in the patient's enfeeblement of memory. In consequence of their pronounced memory defects they are easily victimized and also forget the obligations they have incurred. Their irritability leads to attacks upon others. That such patients can have no valid testamentary capacity must be self-evident.

The apprehensive excitement that accompanies the alcoholic delirium gives the impress to the forensic relations established by this state. The patients endeavor to protect themselves against their supposed persecutors, attack people about them and create public disturbance.

The practical forensic relations of the chronic alcoholic psychoses are similar to those of paranoia.

Nothing need be said regarding these same relations of the actual alcoholic psychoses, for once their existence at the time of the commission of an offense is established the irresponsibility of the offender is also proved. This from a medical point of view should also apply to those transitory psychic disorders dependent upon acute alcoholic intoxication, for there can be

no actual difference between the states of disordered consciousness due to alcohol and those due to other causes. But because the intoxicated person is responsible for having brought about his condition and the resultant consequences, the law does not look upon them as states of pathologically disordered consciousness. This is an anomalous situation which should be remedied, perhaps, as Ziehen has suggested, by punishing the negligence, which under certain circumstances may be criminal, that has led up to the production of the temporary state of mental disorder.

The expert estimation of the chronic alcoholic states will have to be effected in accordance with the degree of disorder that exists in each individual case.

2. Morphinism

Chronic misuse of morphine, like chronic misuse of alcohol, leads to mental and physical derangement. Just as certain symptoms are characteristic in the habitual drinker, so in the habitual morphinist certain symptoms are typical. These are as follows:

(1) A more or less deep intellectual decay. The will power becomes markedly affected from the very beginning, so that all initiative is lost. The memory also becomes weakened, the recollection of occurrences for recent events suffers, and associative thought becomes hampered and retarded until finally any mental occupation becomes impossible.

(2) With the intellectual decline there develops an increasing moral deterioration. This not infrequently develops, as does the morphinism, itself, upon the basis of an hysteria or upon that of an existing abnormal disposition of character. Nearly all morphinists become pronounced egotists so that they lose interest in practically everything, even what has been most dear to them, and their entire thoughts center upon the manner in which they may obtain the drug they crave. They become abject slaves and shrink from nothing in order to satisfy their need. Deception, lies, theft, embezzlement and forgery are the offenses to which this slavery leads. Among female drug addicts, prostitution in order to obtain money to purchase morphine is of frequent occurrence.

(3) Morphinists often develop traits that are manifestly hysterical notwithstanding that these patients can in no sense be classed as hysterics. More particular mention should be made of a strong tendency to exaggeration and of the psychogenic increase of many symptoms whenever the patients are being observed.

Accompanying the marks of psychic failure we find those of physical decline—emaciation of high degree, gastrointestinal disturbances, ataxia, sexual impotence and amenorrhœa. Often we find present a miosis, which occasionally is associated with pupilary rigidity. The teeth usually become loose and must be extracted. Tremor is often present, but is not so marked as in alcoholism. Special manifestations are produced by withdrawal of the drug. Then, as in the sudden withdrawal of alcohol, certain so-called abstinence manifestations set in. Restlessness, with the sensation of impending collapse, states of fear that lead to suicide, loss of appetite, constant sneezing and yawning, eructations and vomiting, diarrhœa, augmenting tremor, cramps in the calves, pains in various muscular territories, neuralgia and paræsthesias, sleeplessness, general prostration, and, when the withdrawal is a sudden one, delusional states similar to those due to alcohol, accompanied by visions of animals and disorientation, all of which may be dispelled by ample injections of morphine, have been observed. Occasionally the sudden complete withdrawal has been followed by collapse and coma. Hysterical attacks occurring in morphinists during the abstinence period are very frequent. In such instances it is probable that the morphinism has developed upon an hysterical basis.

The diagnosis of morphinism should hardly present any difficulties. From chronic alcoholism it may be differentiated by an absence of irritability and by an enfeeblement and a retardation of the psycho-motor impulses. The deteriorated alcoholic is usually given to explosions and is ready for active excesses while the deteriorated morphinist is sluggish, apathetic and generally in a marked state of dreamy cloudedness. In cases in which the anamnesis is wanting the diagnosis may be aided by miosis, pupilary rigidity, the demonstration of morphine in the urine or in the stomach, and the numerous scars,

boils and abscesses caused by the injections, as well as by the symptoms due to abstinence.

3. Cocainism

Cocaine was at one time employed for the purpose of counteracting the manifestations produced by morphine abstinence. Thus we can understand why the chronic abuse of cocaine is usually associated with morphine addiction. Cocaine, however, constitutes a most dangerous substitute for morphine. Its action is far more deleterious and malign than that of morphine or alcohol, and it usually leads to deep-seated mental and bodily enfeeblement.

Cocaine intoxication produces a state of inebriety similar to that caused by alcohol, in which exalted self-satisfaction, pronounced euphoria and desire for activity occupy the most prominent place. Cocaine poisoning is characterized by the following symptoms:

(1) Rapid, progressive bodily decline. The patients become sleepless, greatly emaciated, deteriorate more and more and appear withered and senile. The pupils are widely dilated. Marked muscular weakness, ataxia and tremor exist. The reflexes are exaggerated. The pulse is accelerated. Pronounced sweating, palpitation, dyspnœa and attacks of dizziness set in. Sexual potency disappears. Nutrition and digestion are at their lowest.

(2) Associated with the above symptoms there develops pronounced alteration of character in the nature of a moral and intellectual decline. The patients become loquacious, forgetful and disorderly; the demands of propriety are neglected. A typical feature is a peculiar sort of bustling assiduity that manifests itself by a purposeless general occupation in which details are totally overlooked or neglected. This is associated with apathy, complete loss of will power and marked enfeeblement of memory.

Upon this basis of chronic cocainism, pronounced mental disorders are often developed. Most frequent is the acute insanity of cocainists. This in some ways resembles delirium tremens, while in others it is like the acute hallucinosis of drinkers. It is characterized by the following symptoms:

(1) It usually sets in suddenly with sense deceptions that implicate hearing, sight and sensation. The patients hear themselves threatened and abused, and have all kinds of abnormal sensations in the skin, such as itching, pricking, burning, etc.

(2) As in acute alcoholic insanity, so here the sense deceptions are accompanied by paranoiacal delusions. The patients believe themselves observed, followed and threatened. They turn to the police for help or themselves take up arms against their supposed persecutors. Dangerous attacks, homicide and suicide are not unusual. Often the paranoiacal notions take the form of delusions of jealousy which manifest themselves in a most absurd form. Not infrequently these also lead to dangerous attacks.

(3) Orientation and outward collectedness usually remain completely preserved just as is the case in acute alcoholic insanity. Hence, the patients tell their stories in a logical, well-ordered manner, which gives their delusions an impress of truth and exactitude.

The diagnosis of cocainism is generally derived from the anamnesis. Nevertheless many morphinists will conceal the fact that they have also been taking cocaine. It should be remembered that all decided psychotic symptoms occurring in morphinism (hallucinations, paranoiac delusions) should always arouse the suspicion of a complication with alcohol or cocaine. The acute hallucinosis of cocainism rapidly disappears when the cocaine is withdrawn, to return, however, with every renewed injection of the drug.

The prognosis of cocainism and cocaine-morphinism is very bad. The bodily and mental deterioration usually takes an appallingly rapid course, such as is not observed in uncomplicated morphinism or alcoholism. A not uncommon feature is a chronic delusional state that becomes permanently established after the acute hallucinosis has passed off.

There are still other narcotic poisons that may lead to chronic intoxication and mental disorders which in many ways are similar to those just described. Among these are ether, chloral, chloroform, hasheesh, opium and absinthe.

4. Lead Intoxication

Severe psychic disorders often develop upon the basis of a poisoning by lead. A differentiation may be made between acute and chronic lead psychoses, as follows:

(1) The acute lead psychoses take their course under the guise of a manic-like excitement or of a hallucinatory confusion and almost always have a certain similarity to the twilight states of epilepsy. Nearly all acute lead psychoses are accompanied by sense deceptions. States resembling the delirium of alcoholism have also been observed in lead poisoning. The numerous physical symptoms of lead intoxication will serve to determine the diagnosis. The prognosis is good, the duration being from one to two weeks.

(2) In certain cases upon the basis of chronic lead intoxication there are developed pronounced affections of the nervous system that manifest themselves in states similar to those encountered in paresis. Marked dementia with numerous symptoms of organic lesion, palsies of ocular muscles, neuritis optica, disorders of speech, pupilary irregularities, epileptic attacks and general motor weakness may produce the impression of a dementia paralytica. The condition is generally a kind of dream-like confusion or of drunkenness, with visual hallucinations and jumbled notions of persecution.

The prognosis is always a serious one, yet not infrequently recovery takes place when the poison has been eliminated. More frequent, however, is a pronounced remission in which a certain mental weakness, as is the case in chronic alcoholism, remains. Some cases end fatally in a state of coma.

Part Third

SPECIAL ANOMALIES

I

HYPNOSIS

THE terms "hypnosis," "hypnotism," and "hypnotic suggestion," as employed in modern psychology and psychopathology, are based upon the assumption of the existence of a peculiar psychic manifestation or group of manifestations which had previously been unrecognized, or at any rate not sufficiently appreciated.

The existence of such peculiar manifestations is denied by some observers, and therefore they consider these terms unnecessary and misleading and would have them banished from scientific terminology. Moreover, those observers who maintain that these manifestations exist are by no means in accord as to their practical forensic significance, and their opinions differ particularly on the question of whether such manifestations should be included in the domain of psychology or in that of pathology. For this reason it is impossible to give a concise, accurate, practical definition of the various terms. It is claimed, however, that the respective doctrines of these observers are of primary significance in juristic medicine. By way of emphasis on the forensic side of the question the most extreme supporters of these teachings maintain that it is possible, by means of hypnotism, to influence the perceptions, notions and feelings of an individual, and in accordance with the desire of the hypnotist, to modify them to such an extent that the individual will become a passive subject of the hypnotist's power and under certain conditions will unhesitatingly carry out his commands.

Instances in which the question of hypnotic influence has received juristic attention are as yet comparatively few in number. Theoretically, however, the question may obtrude itself at any time either as one of civil or criminal proceedings or as a processual matter. In a civil action, for instance, a party may claim to have been deceived through hypnotic influence in regard to certain objects or facts, or in the appreciation of attendant

circumstances, and that as a result certain legally relevant acts were committed or omitted, or, in a criminal proceeding, the accused may claim that the deed with which he is charged was committed by him while under an hypnotic ban; or else the person who has been injured by the accused may claim to have been influenced hypnotically by the latter so as to have been unable to oppose his aggressions. Processually the question may arise in one of the following ways:

In civil proceedings: When a party maintains that a certain document or signature to a document has been obtained by means of hypnotic influence.

In criminal proceedings: When an incriminating document furnished by the accused or a confession is said to have been obtained by hypnotic means.

Common to both forms of proceeding: When witnesses or judges are said to have been unduly influenced by hypnotic means.

These assumptions even in the skeletonized form in which they are presented may appear to be extreme, but it cannot be denied that they are logical deductions from the doctrine of hypnosis. For this reason it has seemed to me to be necessary to enter into the question of hypnotism in greater detail. This, however, cannot be done satisfactorily without some knowledge of its history.

The predecessor of the doctrine of hypnotism was the doctrine of animal magnetism. The latter, which can be traced back to a much earlier period (particularly Paracelsus 1530), was elaborated and systematized by Mesmer (died 1815). The salient note of his doctrine was that by means of a force existing in the human organism and susceptible of transmission directly through contact or indirectly through living creatures or inanimate objects, one person could exert a peculiar influence upon another. This influence Mesmer employed for curative purposes. The effect of such magnetization differed greatly in different individuals. While some patients became quiet, others became excited, and in still others convulsions, occasionally preceded by a state of fatigue and sleep, were produced. These convulsions were designated as crises.

Puységur, a pupil of Mesmer, while treating a patient by means of mesmerism, noticed that the latter, after a brief sit-

ting, fell into a state of sleep in which Puységur was able to influence the man's thoughts and movements. This state of sleep was called "somnambulism." In the year 1819 Déleuze wrote a history of magnetism in which, among other things, we find the statement that an individual who had been placed in a somnambulic state by means of magnetism could recall to mind things which he could not remember during his waking state; and furthermore that, in this somnambulic state the magnetized man was completely dominated by the will of the magnetizer in everything except what was injurious to himself or contrary to his ideas of truth and justice, and yet he might be led to do things that were reprehensible.

Pétetin, also a supporter of magnetism, in 1787 described catalepsy. In 1819 Faria maintained that somnambulic sleep could not be produced indiscriminately, but only in those possessing a special congenital disposition. He contended also that the use of the term "magnetism" had no justification, and that the inciting factor in the production of the sleep was not any magnetic influence, but the will of the magnetized person, who felt himself under a compulsion to sleep. Accordingly he also opposed the then prevailing method of sleep production, which consisted in laying the hands upon the body, stroking the skin, and in the so-called "passes" in which the hands of the operator were brought parallel to and at a certain distance from the body of the subject.

He treated only such persons as seemed to him to be amenable to such sleep production. His method consisted in requesting the patients to close their eyes and then commanding them to sleep. Or he had them fixate the palm of one of his hands, which he then gradually brought closer to their eyes and, if necessary, he supplemented this by touching certain parts of the head and body. The occurrence of convulsions, he maintains, was not due to any fault of the magnetizer but to the tense apprehensive restlessness with which certain individuals anticipated the coming event. Faria also denied that there was any difference between somnambulic and natural sleep. Déleuze and Faria have also observed "sleep" of long duration, during which the individuals fulfilled all their obligations and in the intervals between one "sleep" and another had recollections only for the occurrences of the waking period.

In 1843 Braid became a supporter of Faria's theories of the dependence of sleep production upon the subjective will of the patient. He believed the sleep-like state to be due to states of fatigue, particularly when brought about by the methods that he employed, viz., fixation of a glittering object. He called this state "hypnotism." He made use of it, among other purposes, as had others before him, for the performance of painless surgical operations. Above all, he studied catalepsy and those suggestions that were effectual in the cataleptic subject by placing the limbs or body in different postures.

In 1856, Azam, following Braid's principles, observed and treated a young girl who was mentally disordered, hysterical and subject to spontaneous cataleptic attacks accompanied by anæsthesia and hyperæsthesias. Through fixation of his lancet he induced sleep and produced a catalepsy, in which there existed insensitiveness to pain, followed by augmented sensibility, and during which he was able, by folding the hands and placing them in the proper position, to suggest ideas of a religious nature.

Broca paid particular attention to surgical operations upon hypnotized persons. With Charcot and his hypnotic experiments at the Salpétrière in Paris, a new impress was given to the entire subject. He applied himself to a study of the individual phenomena that take place in the hypnotic state, and confined his experiments to persons suffering from major hysteria. His pupils later extended the field of experimentation to hysteria in general. In 1879 Paul Richer published his observations, also made upon persons afflicted with major hysteria.

Previously, however, in 1866, Liébault (later of Nancy) had published studies of suggestion therapy. He oppugned the doctrines of animal magnetism, which still had many supporters. His experiments were conducted particularly upon individuals whom he considered non-hysterical. In this he was followed by his pupil, Bernheim, also of Nancy.

Others studied hypnotism more particularly from the so-called physiological side, and still others from the forensic point of view.

An examination of the constitution of the doctrines of hypnotism as taught to-day will reveal differences of interpretation so manifold that a detailed consideration of them in the

present writing would lead us too far afield. Nevertheless two main tendencies must be specially noted, and it is to these that we shall confine our remarks. These are the teachings of the so-called Paris School of Charcot and his pupils, and those of the Nancy School, of Liébault and Bernheim.

Before proceeding any further, it should be stated in support of the teachings of the protagonists of hypnotism that they adduced an extraordinarily large number of cases dependent entirely upon experimentation, while the cases that have occurred independently of any experimenter have been very few, and actual medico-legal cases, as previously mentioned, are almost entirely lacking. With that fact in mind, we may now take up the fundamental traits of the two schools. Charcot's studies of hypnotism are based entirely upon observations made upon individuals suffering from major hysteria. His results may be summarized as follows: The symptom complex of hypnotism is made up of certain neuro-muscular manifestations. These consist of three states, differing from one another by sharply defined characteristics, and are known respectively as lethargy, catalepsy, and somnambulism. The differentiating factor is the neuro-muscular excitability. Under normal conditions mere pressure upon a motor nerve will cause no muscular contraction, but pressure upon a sensory nerve will produce pain. In the hypnotic state, however, pressure upon a motor nerve will cause muscular contraction so pronounced as to be tetaniform. This increased excitability is found in many hypnotizable hysterics even in their waking state, as well as in many non-hypnotizable hysterics. In all of these individuals the contraction occurs in grades entirely analogous to the grades encountered in the hypnotic states of lethargy and catalepsy.

It is unnecessary for our purpose to enter into a description of these manifestations that go to make up each one of these states, as described by Charcot and corroborated by Paul Richer, nor to mention the differences of opinion held by Charcot's followers in regard to the facts pertaining to neuro-muscular hyperexcitability. These differences seem to be due to the fact that some of the investigators made their experiments upon hysterics while others experimented upon healthy individuals. Bottey, finding an increased neuro-muscular excitability in both the healthy and the sick, concludes that the hypnotic manifestations

obtained in healthy individuals must be similar to those that are encountered in hysterics. Gilles de la Tourette, on the other hand, maintains that there can be no hypnosis in persons who are in good health, and therefore that hypnotized individuals presenting those symptoms of disease are only apparently healthy.

In addition to the three typical states described by Charcot, the French school assumes the existence of transitional states designated as conscious lethargy, ecstasy and fascination.

The doctrines of the Paris School, briefly expressed, contend that physically the hypnotized person is under the control of the hypnotist only to a limited extent, but psychically he is completely under the control. The hypnotist's influence, according to these investigators, is transmitted by the aid of memory stimulation produced in the most varied ways. The scope of this influence may extend to the entire somato-physic and psychic sphere—the special senses, emotions, ideas and will-power.

The action by means of which the influence is exerted is technically designated as "the suggestion." The nature of this suggestion, the conditions under which it can be produced, etc., will next be considered.

Hypnotic suggestions, according to the time at which they take effect, are designated respectively as hypnotic and post-hypnotic suggestions. The former exert their action solely during the actual state of hypnosis and their influence terminates with the ending of the hypnosis. The post-hypnotic suggestions, on the other hand, although of course inaugurated during the hypnosis, are not annulled by the cessation of the hypnotic state, but may manifest their action for a more or less protracted period of time thereafter. To these two kinds of hypnotic suggestion a third must be added, one which acts similarly but apparently has nothing in common with hypnosis itself. This is the suggestion transmitted during the waking state.

These three classes of suggestion may in turn be subdivided. The causal connection between the objective and subjective happenings, between hypnotist and hypnotized, is governed by the following principles, as formulated by Janet: By means of suggestion ideas will call forth ideas, movements will call forth

movements, ideas will call forth movements, and movements will call forth ideas.

In considering which persons are open to suggestion, we should bear in mind that not every one who is hypnotizable is amenable to suggestion. Moreover, a person who reacts post-hypnotically to suggestion is almost certain to be suggestionable also intra-hypnotically, whereas the converse proposition would not be applicable. Moreover, most individuals who are suggestionable are susceptible only to suggestions from some one who has placed them in hypnosis, and they successfully oppose any attempt at suggestion made by other persons. But they are always amenable to suggestions from a person who has hypnotized them on a previous occasion, and to suggestions from any one whom the hypnotist in the course of the hypnosis designated to the subject as being capable of influencing him by means of suggestion.

Auto-suggestion also may occur; that is, a person may hypnotize and suggestionize himself. In this case we have an example of that duplication of personality that is encountered elsewhere in psychopathology.

If now, more particularly from the viewpoint of intra-hypnotic suggestion, we ask in which order the three states of Charcot are favorable for suggestion, we will find the state of lethargy to be the one that is least so, for although in lethargy the body reacts to certain stimuli, psychic activity is, so to say, extinct.

In catalepsy, on the other hand, suggestion finds free entry. In this state it is above all the posture that is imposed upon the body that acts as a suggestion for the production of ideas. Thus, folding the hands will arouse religious notions, or placing certain objects in the subject's hand will incite corresponding acts. Even complicated orders may be effectively suggested to certain cataleptics. Wheresoever the suggested command is executed, it is carried out with machine-like obedience.

Of all three the somnambulic state offers the most favorable basis for suggestion. Nevertheless it is true even of this state that by no means all those who can be placed in a condition of hypnotic somnambulism are amenable to suggestion while in that condition. However, a repetition of the hypnosis may disclose a suggestibility that has hitherto remained latent.

So far as post-hypnotic suggestion is concerned, all that need be said is that all things which can be suggested intra-hypnotically can also be suggested post-hypnotically.

Suggestion during the hypnotic states can bring about hallucinations and sensory deceptions of all kinds as well as definite physical alterations.

Of special importance are the suggestions known as retroactive, for it is through them that a person's ideas can be so influenced that he will imagine he recalls a certain incident, which, as a matter of fact, is purely fictitious and therefore could never have formed part of the individual's conceptual store.

Negative suggestions also are possible; that is, a person may be made not to perceive objects or persons which actually are present within his visual field. Hence also, it is possible to take from a person his recollection of certain individual incidents—yes, even of an entire epoch of his life.

The influence of hypnotic suggestion upon the memory in general also requires attention. After awakening from the pure lethargic state the hypnotized individual possesses no recollection whatsoever of the occurrences that have taken place, for, as Gilles de la Tourette has fittingly said, during this state "the individual is as a mass without mind." Moreover, all observations show that after somnambulism and catalepsy memory is lost for the happenings of the hypnosis. This statement applies also to post-hypnotic suggestions, for although they are carried out, they are executed without any recollection for anything that refers to the act or the circumstances of the suggestion or to the person of the suggestor. But the retention of memory and the extent to which memory shall be retained are also matters that are governed by suggestion. On the other hand, in a second or in any subsequent hypnosis the individual will recall all the occurrences of the preceding one and can then give information regarding them. This eventuality may be nullified during the first hypnosis, however, by suggesting that in any future hypnosis there shall be no recollection for the occurrences that have taken place during the first one. On the other hand, during the hypnosis, and of course aside from the state of lethargy, the individual is intensely conscious of all the occurrences of his ordinary life.

Of cardinal significance is the question to what extent the individuality of a person will assert itself in opposition to the hypnotic influence. Naturally it will be a question essentially of the person's individuality in relation to his or her responsibility. For instance, not every woman who is hysterical can be considered a favorable subject for hypnotism simply for that reason. The point to be decided is to what extent a person who is hypnotizable and has actually been placed in a state of hypnosis preserves her individuality toward hypnotic suggestion. This preservation of individuality must manifest itself first in a peculiar mode of reacting to suggestion and, secondly, in opposing certain suggestions contrary to the person's individuality.

As a matter of fact, the individual does not lose his psychic individuality during hypnosis except in the state of lethargy. So far as the execution of commands is concerned, these will be carried out, if at all, entirely as the person giving the orders directs. We should not forget, however, that even in normal life no command can be given so unequivocally that the individuality of the person executing it will not come into action. Nor should we overlook the fact that each of two persons carrying out a certain order with implicit obedience will, according to mental disposition, training and nature, do so in his own special way. The one will perform a certain specified action dexterously, the other awkwardly; the one rapidly, the other slowly; and the more complicated the command, the greater the demand upon the individual's efficiency, the more evident will the variations become.

All this applies with equal force to the hypnotic state, as clearly shown by the following example: A girl is commanded to poison one of her acquaintances. She offers him a glass of supposedly poisoned water; he refuses to drink. Then with all her powers of inventiveness and persuasion she endeavors to get him to do so, and she does this with so much individuality and independence that there can be no question of automatic obedience on her part.

Other experiments show that the individual who otherwise obeys implicitly will be thoroughly refractory to suggestions that are contrary to her sense of morality or to her conscience, or she will respond only partially and may then spontaneously

substitute some act less offensive to her, but equivalent to the one she has been commanded to carry out.

It will not be out of place here to give brief consideration to those post-hypnotic suggestions that do not take effect immediately upon awakening, but only after a more or less protracted period of time. In such instances the individual, while in a state of hypnosis, receives an order with instructions to carry it out only after a lapse of a certain time or at a certain hour on a future date. Various successful experiments of this nature have been reported, including one in which sixty-three days elapsed between the hypnosis and the day set for executing the order.

Finally a word should be said concerning suggestion during the waking state. This is of interest chiefly in relation to certain individuals who, more particularly as a result of frequent previous hypnotizations, have become so impressionable that even in their normal state they will react to suggestions of every kind. Under the influence of such non-hypnotic suggestions they will show precisely the same manifestations as are observed in them during the hypnotic state.

The foregoing matter summarizes the salient teachings of the Paris School, and we may now return to those of the Nancy School. The chief theory of the latter is that suggestion alone is responsible for the hypnosis. Whereas, according to the Paris School a certain somatic procedure is necessary for the production of a hypnotic state, the Nancy School maintains that hypnosis is dependent entirely upon psychic influence. Moreover, this school attaches no importance whatever to the somatic symptoms which, according to the Paris School, differentiate the various hypnotic states. The Nancy School lays stress entirely upon the psychic characteristics, the observations made by this school having furnished no support for the doctrine of neuro-muscular excitability. Besides, this school looks upon the hypnosis not as a pathological state, but as a physiological one. It has conducted its studies upon healthy as well as upon sick individuals, paying more attention, however, to the former.

The classification of the various hypnotic states is made by the Nancy School according to the extent of the influence produced. Liébault has differentiated six grades, while Bernheim has assumed the existence of nine. A detailed description of

these various grades is unnecessary for the purpose of the present writing. It will suffice to state that for Bernheim's first six grades the reduction of memory for everything that has occurred during the hypnotic state is characteristic. Certain subjects have the consciousness of having slept; others are in doubt and still others energetically deny having done so. In all instances, however, individuals who have been in the fourth, fifth and sixth grades can be convinced that they have been influenced.

All kinds of transitions from a state of light sopor to most profound sleep are met with. In many individuals it may be assumed with certainty that the sensorium and the intelligence have remained clear during the entire period of the influence: others show only certain symptoms of sleep, or rather, they are asleep so far as all other persons are concerned, but have remained awake in their relation to the hypnotist himself. Afterward, also, the individual often erroneously believes that he has given himself up to the influence merely as a matter of acquiescence, while in some instances the existence of simulation is possible and cannot be entirely denied.

For the seventh, eighth and ninth grades amnesia exists on awakening and the hypnosis is indubitable. Sometimes the amnesia is complete, at other times it is limited. In none of the grades need sleep actually be present; all phenomena may take their course without it, and suggestion may be entirely effective notwithstanding its absence.

In brief, we may say that all hypnotic manifestations are due to suggestion, conveyed by means of example, gesture, words, etc. The production of the hypnosis itself is dependent upon suggestion and every other accessory, such as fixation of the operator, serves but to enhance the suggestive influence. Of equal dependence upon suggestion are all acts that take place during the hypnotic state itself, as well as the awakening of the subject, no matter how the latter may be accomplished. Hence from the Nancy viewpoint, hypnosis may be defined as an altered psychic state characterized by a restriction of consciousness, augmented suggestibility and a certain amenability of the hypnotized person's bodily and mental functions to the suggestions of the hypnotist.

We may now ask what deductions of practical value from a forensic point of view may be drawn from the teachings out-

lined above. In arriving at our own conclusions, of course, we cannot afford to overlook the deductions reached by the respective schools.

Let us start with the Paris School. As we have seen, the investigators of this school hold that the problem of hypnotic influence can apply only to unhealthy persons, or more specifically only to those afflicted with hysteria. But as Gilles de la Tourette has particularly noted, it is not alone a question of actual hysteria but also of cases in which hysteria, while not yet actually developed, would be likely to manifest itself at any time.

In what manner, then, may the employment of hypnotism in such hysterical or hysterically disposed persons be of forensic significance? It may be well to begin with the question whether under certain circumstances the fact of hypnotization as such might not make the hypnotist civilly and criminally responsible.

The Paris School starts from the assumption that hypnosis is a pathological state, and furthermore assumes that the more frequently an individual is placed in hypnosis the more susceptible will he become to future hypnotic influences. It also holds that by hypnotization a previously latent hysteria may be converted into a pronounced hysteria, occasionally of the most severe type. This implies that, by means of hypnotization, this pathological state may be materially intensified, and the disease made markedly worse. There should be no doubt that a physician who has injured a person's health by means of unreasonable or excessive hypnotization could be held civilly liable or be criminally prosecuted in conformity with the principles that apply to other errors for which the medical practitioner is responsible. Similar deductions would apply to charlatans and amateur hypnotizers. The fact that the hypnosis may have been effected each time with the consent or upon the request of the patient should not be entitled to any consideration, as the man who practises the profession of medicine is directly responsible for proper treatment. These conclusions, however, have already been drawn by Bailly in his report on animal magnetism and its dangers (Paris, 1784), and the Paris School draws similar inferences.

But the hypnosis may have been effected without the consent of the hypnotized person and against his will. This is particu-

larly possible in individuals who possess so-called hypnogenic zones—that is, parts of the body are so sensitive that mere pressure upon them without any further measures will produce hypnotism, a doctrine propounded by Paul Richer, developed by Pitres and accepted by the Paris School. Let us suppose that a physician or a layman, knowing and making use of the presence of such hypnogenic zones in a certain person, places him in an hypnotic state in order to prevent him from completing an urgent piece of business, the execution of which would be of advantage to the hypnotized person, while it would be prejudicial to the hypnotist or some one in whose interest he is acting. Under such conditions should not civil responsibility be assumed, and should not criminal prosecution for unlawful deprivation of liberty be warranted? Moreover, we know that during the hypnotic state the body of an hypnotized individual may be unopposedly subject to physical violence. The assailant may be the hypnotizer himself or a third person present during the hypnosis: this last mentioned possibility, so far as I know, has not yet been encountered, but to me it seems a logical deduction from our knowledge of certain forms of the hypnotic state. We have seen, for instance, that in lethargy all mental activity lies dormant and hence all power of discrimination must be wanting. Is it reasonable, therefore, to suppose that a hypnotized person will submit to physical violence by one individual and not by another? So long, then, as the hypnotized person is in a state during which the body is subject to physical violence by a third person, it must be true that he is unprotected against physical maltreatment. Particularly could a hypnotized female person be violated during the hypnosis, an assumption that is fully accepted by the Paris School.

The judicial consequences of such violation might be a matter of civil proceeding, in so far as a demand for marriage or for pecuniary indemnity or a defense against a suit for divorce on account of adultery could be based upon it; or the questions involved might be purely for settlement in a criminal court, which would have to decide whether the attack constituted a rape or a violation of an insane or an actually irresponsible person.

Of the three states of Charcot the one that lends itself least to sexual outrages is the cataleptic state, because this does not

last sufficiently long for the commission of the assault and may easily be interrupted by convulsive attacks which would militate against it. But aside from the question of physical inability to resist any aggression it must be remembered that the hypnotized person would be subject in other ways to the will of the hypnotist, particularly by means of suggestion. Then her attitude toward the hypnotist would be not that of a lifeless mass, not that of an individual whose body alone is at the mercy of the hypnotist, but that of a person who would serve him as a slave would his master, not only with his body but with his entire personality, in thought and in deed. Where such subserviency is present, however, the hypnotic subject's individuality has not been annulled; on the contrary, the individual's intellectual powers are to a certain extent decidedly augmented. Hence, provided no other inhibitory factor were operative, hypnotic suggestion might find an unlimited field of application in practical life. There is hardly any imaginable act of civil or criminal relevance for which an adept hypnotist could not make use of the subject of his hypnosis, either as a victim or as an accomplice. A circumstance favorable to the accomplishment of such deeds is the fact that by means of suggestion the subsequent memory of the hypnotized person may be completely abolished for the act of the suggestion and for the happenings that attended it, as well as for the person of the suggestor. The hypnotized individual, moreover, could be placed at the mercy not only of the hypnotist himself but of another person. In this connection the Paris School emphasizes the fact that suggestion may be so conveyed that the hypnotized individual would obediently follow the suggestions of certain third persons.

Nevertheless, the actual facts prove that suggestion occupies a place of but subordinate medico-legal importance. How can this be explained? Déleuze, referring to animal magnetism, had already made the statement that the magnetized individual was completely dominated by the will of the magnetizer but only in so far as he would not be injured thereby and in so far as it did not contravene his notion of justice and truth. But he added that if he were badly led the subject would go wrong. Puységur had maintained that the obedience of the magnetized person was unlimited only in so far as related to a command to do

things that were beneficial, but that it could not be used for other purposes, even not for things that were quite inoffensive.

The factor then, which above all others, according to the notion of the Paris School, opposes the practical employment of hypnotism for illicit purposes is the opposition involuntarily exerted by the hypnotized individual towards certain suggestions, an opposition that manifests itself particularly in the somnambulic state. This opposition may be of only relative force, so that in time it may be overcome by the efforts of the suggestor, or it may be absolute, so that it will permanently withstand all the operator's endeavors. The correctness of this statement may easily be corroborated by experimentation. Thus Féré recounts the history of a girl who proved herself amenable to suggestions of all kinds, except for acts likely to injure her lover: Pitres tells of a girl who followed the suggestion to steal but at once put the stolen piece of money back in the place from which she had taken it, with the remark that this was a theft and she was no thief. Pitres also reports cases of passive opposition to unsympathetic, post-hypnotic suggestion, the individuals not allowing themselves to be awakened from the hypnosis, so long as the particular order was maintained, but promptly coming out of the hypnosis as soon as the order had been retracted. From such observations, the conclusion has been drawn that the individual who carries out a hypnotic suggestion is not, merely because he has been in a state of hypnosis, unreservedly absolved from responsibility.

Little practical significance therefore can be attached to the influence of hypnotic suggestion in cases of criminal nature, because hypnotism furnishes but an insufficient guarantee that the command will be executed and because any slight miscalculation or the occurrence of unforeseen circumstances would easily produce complications that would endanger the immunity of the suggestor against discovery. These are practical deliberations which would lead any one who plans to commit a crime to select some other means of execution than that of hypnosis. From a civil point of view, however, in consequence of experiments that have been made, it has been assumed that by means of intra- or post-hypnotic suggestion a person may be led to execute promissory notes, orders for merchandise, etc., all in proper form.

In so far as concerns the civil liability and criminal responsibility for acts and omissions ascribed to hypnotized individuals, we have seen that the Paris School expresses itself with very great reserve. Since this school considers it experimentally proven that one and the same individual may possess ample moral powers of resistance to certain criminal suggestions, while accepting other harmless suggestions, the conclusion has been drawn that notwithstanding the proof of hypnotic influence, there may in each individual instance still exist a well-founded doubt whether the person had not succumbed to the influence before his power of resistance had actually been exhausted, in other words, whether the person could not in reality have withstood the influence if he had actually desired to do so. From such a point of view it would appear self-evident that no rules can be given that would be generally applicable to the annulment of responsibility in consequence of hypnotism, but that it must always be a question of the broad consideration of the circumstances in each individual case. This, however, would be exactly the same standpoint that must be taken in all other abnormal mental states. According to the Paris School, however, hypnotic states are nothing else than peculiar forms of manifestation of hysteria, and therefore what is applicable to the latter in regard to responsibility would also be applicable to hypnosis. If this be true, as relates to questions of criminal law, it must also, with appropriate modifications, be true for questions of civil law.

Let us now consider how and with what amount of certainty it may be determined in any particular civil or criminal case whether a state of hypnosis has been present. This problem is solved by the Paris School entirely by the presence or absence of the somatic symptoms of which we have spoken in our sketch of hypnotic manifestations, for it does not admit that the assumption of the existence of an hypnosis may be based upon purely psychic symptoms. It would therefore be necessary in every case to investigate whether, how far, with what effect and under which circumstances the particular individual is amenable to hypnotism and to hypnotic suggestion, and then upon a basis of these results to determine whether a hypnotic explanation is required, or at any rate permitted, by the fact upon which the legal contest rests.

How the expert is to arrive at a satisfactory opinion without himself subjecting the individual to hypnotic experimentation cannot be easily understood, however, and the results of such experimental examination will be all the more pronounced the more frequently the individual has been hypnotized in the past. Under all circumstances, we must remember that hypnosis as well as hysteria manifests itself differently in different individuals; that the two may be different in form in one and the same individual at different times; and finally that even excellent hypnotic subjects may occasionally prove completely refractory to hypnotic influence. Consequently no clear-cut, logical conclusion can be drawn; and a great difference exists between the experiment in the laboratory and those experiences which are actually encountered and which may constitute the cause for medico-legal investigation.

The fact that after a hypnotic state an individual no longer remembers the things that have taken place during the hypnotic state, and particularly not when in the course of the hypnosis a loss of memory has been suggested to him, requires special consideration at this place. While this circumstance would seem to favor the use of hypnotism for unworthy purposes, we know that during a subsequent hypnosis, recollection returns for the proceedings of a former hypnosis. Exceptions to the latter rule will occur when during the first hypnosis the suggestion has been conveyed that the recollection of the happenings of that hypnosis should be obliterated for the next and every following hypnosis, and when during a second hypnosis it is sought to obtain information which would entail a confession distressing to the hypnotized individual; in the latter case the resistance to unsympathetic suggestions of which we have previously spoken would come into action and would controvert any attempt to obtain knowledge by hypnotic means. But aside from these eventualities there will always exist the possibility that by means of a second hypnosis information may be obtained in regard to the procedures of the first. Why not utilize this possibility if in any civil or criminal procedure there is a supposition that hypnotism or hypnotic suggestion had played a part? In other words, why should we rest content merely with an expert opinion concerning the conditions that may have obtained and the manner in which the individual would react to

hypnotism when, by going a step farther, we could establish a hypnotic state and thus obtain definite declarations from the person in question and make of him not a puzzle for expert opinion, but a witness in his own behalf, or in behalf of another person, as the case may be?

The answer to this question can be given only in each particular case, and the reasons for opposing such procedure may be medical or legal ones. The legal objections lie beyond my province to discuss. The most important of the medical reasons is the objection that, according to the Paris School, the hypnotizable individual is an hysteric and every hysteric possesses an inherent tendency to deceive himself and others. Moreover, by the same teachings, hysteria is an acknowledged mental anomaly, hypnosis nothing else than an existing hysteria that has been artificially aroused from its dormant state or artificially intensified, and hence hypnosis also is a mental anomaly. Statements which may be made under such conditions can never be of more than subordinate value.

The practical deductions to be drawn from the doctrines of the Nancy School in so far as they differ from the teachings of Charcot are as follows:

Since the Nancy School tells us that hypnosis is not a manifestation of disease, and moreover lays stress not upon the somatic but upon the psychic symptoms, maintaining that the hypnosis itself is dependent not upon somatic manipulations but essentially upon psychic procedures, we must conclude that individuals who are in perfect mental health may be subjected to hypnotic influences and thus be made the objects or the accomplices of every relevant kind of civil or criminal misuse. This is a deduction that has been expressly drawn by the Nancy School. But, according to Bernheim, an unusually large number of variations in the degree of hypnotic influence is possible, so we must conclude that only in each individual case can an opinion be expressed as to whether the influence exerted is one that the individual could oppose or not. Inasmuch, however, as the determining symptoms are solely of psychic nature, it must in the long run inevitably be a question of the individual's entire personality and no one but a physician who has had wide personal experience in the domain of hypnotism will be competent to give an opinion. But even in its lightest grade hypnotiza-

tion, according to the Nancy School, always signifies an implication of the psychic personality, especially in the direction of freedom of the will, and for that reason of the moral responsibility as well; and therefore we cannot see how the question of the judicial employment of hypnosis or hypnotic suggestion can be determined in any other way than that indicated in our consideration of the views of the Paris School. In all the differences that exist between the teachings of the Paris School and those of the Nancy School, the main questions will always be whether hypnotism is possible solely in psychically abnormal individuals or whether it can also be effected in those who are psychically normal, and whether the hypnotic states receive their decisive characteristics from somatic or from psychic symptoms.

There are scientists, however, who deny that hypnosis possesses any special characteristic symptomatology and who for this reason do not believe this state is deserving of any special scientific attention. They argue that the manifestations of the hypnotism of the Charcot School are essentially those of hysteria and, therefore, deserve no individual consideration, while the manifestations studied by the Nancy School are essentially those brought about by suggestion and suggestion is an important factor upon every domain of practical life, has always been known and employed, and, therefore, does not merit being specially designated as hypnosis. In our opinion the last word has by no means been spoken concerning the entire question of hypnotism. Notwithstanding all the assiduity devoted to the study of this subject, many points still require elucidation, and it seems to us to be more conscientious to answer them with a *non-liquet* than simply to dismiss them as absurd.

II

THE ANOMALIES OF SEXUAL SENSE

Upon the copulative act depends, anthropologically, the maintenance of the race, and, sociologically, the maintenance of society. This act is incited by the sexual impulse that is innate in every human being and which is not surpassed in force by any other animal instinct. For this reason, its psychic correlative, love, occupies a foremost place among the factors of emotional life.

The sexual impulse is opposed by inhibitory factors, in part dependent, in part not dependent upon the human will. Through his will man possesses the power to regulate his impulses, of course, including the impulse to sexual intercourse.

The considerations that may determine an individual to confine his sexual impulse within certain bounds may be of various kinds, and among them will be those bearing upon the fact that each person is but a link in the social organism, which can exist or flourish only if each individual exercises self-control.

The standards of such social organism find their expression in custom. Wheresoever a certain social group is lawfully organized, it represents a State and its standards become law. Then the ideal relation is that, through its authority, the State shall sanction the condition under which Society exists. Society is left free, through its coercive power, to secure itself against the arbitrary acts of its individual members or of its various classes.

Inasmuch as the requirements of society and its views regarding them change with the progress of culture, as well as with alterations in climatic and other conditions of life, it may well happen that, while the law of the State and the process of moral development progress each in their own way, the law at certain times will regard conduct that is not anti-social as deprecable, or, on the contrary, may regard conduct that is anti-social as not unlawful. Such discrepancies may be encountered when the law—as is the case in the early beginnings of

culture—has not yet been formulated in statutes but is the product of custom, in which case it will naturally be a reflection of social opinion.

On the other hand, at an advanced stage of culture the danger of discrepancy will become imminent when certain branches of science develop rapidly or when even the masses of the people have become impregnated with newer conceptions that are contrary to old views, but when on account of a certain conservatism the old transmitted law dare not as yet be correspondingly altered.

Society is based upon the family. As far back as history takes us the family-forming sexual act has been a privileged one—that is, marital procreation, as opposed to propagation outside of wedlock, has been given certain parental and progenic rights, while sexual intercourse of a third person with one of the married parties has been punitively reprehended. Later non-marital coitus was viewed as something deprecable, and here and there even as punishable. The employment of force in order to effect sexual intercourse becomes a punishable offense, as also does copulation with persons under a certain age, etc.

Such elementary regulations, however, no longer sufficed as time progressed. Society began to recognize extreme incest—copulation between close relations—as reprehensible, and later as a punishable offense. It is probable that hygienic as well as religious and general moral principles exerted a determining influence in the establishment of these views.

The more fixed the moral principles of the individual became, and the more the mass of the people arose above the utilitarian standpoint and looked upon themselves as the guardians of moral obligations, the more decidedly did it seem necessary for the State to reprehend certain sexual acts which represented neither an aggression against the individual or the family nor a menace to the race, but in other ways appeared immoral. That sexual intercourse with animals and copulative procedures between individuals of the same sex became crimes showed that the mass of the people recognized such unnatural satisfaction of sensual desire as a vice which dared not be sanctioned if their own moral existence was not to be imperiled.

The relation that sexually correct conduct bears to healthy

social conditions is well shown by the term "morality" as generally and preeminently applied to designate a respectable measure of self-control in one's sexual relations.

Since all time the judicial appraisal of sexual delicts has been governed almost exclusively by the objective conditions, without considering in any way whether the reprehensible act may not have been the result of a diseased state of mind. A change in views could be expected only when psycho-pathology had obtained a certain degree of development. But even when this came about, the forensic evaluation of sexual delicts remained unaltered, because medical science bestowed but little attention upon the anomalies of the sexual sphere, always seeing only what lay on the surface, viz., the act itself, but never going deeper in order to investigate the underlying causes. The courts could not take the initiative where the medical teachings were remiss.

During the last decades, however, as a result of and through the efforts of William A. Hammond, Kiernan and Lydston in the United States, and of Krafft-Ebing, Moll and Schrenck-Notzing abroad, the anomalies of sexual sense have become the object of marked psycho-pathological attention The results of these investigations teach us that many instances of sexual contravention require pathological and not criminal consideration. These investigations are by no means closed and their literature is growing more and more extended; there are even signs of a tendency to go to the opposite extreme and to assume disease where only culpability exists. All in all, however, society has for the most part remained undisturbedly conservative and everywhere characterizes sexual contraventions as vice. This may also be said regarding our laws and law makers; and yet, as will be shown, the anomalies of sexual sense not infrequently lead to offenses that must not formally be looked upon as sexual crimes. In speaking of the anomalies of the sexual impulse or sexual sense we should remember that this impulse, which since Hegar is commonly divided into a copulative and a propagational one, in our present state of culture—unless it be in woman—hardly exists in its quality of an impulse. Reflection and ultilitarian considerations have so held it in abeyance that the only component with which we to-day have to deal is the copulative desire.

This desire may be excited by bodily or mental stimuli and it should always be remembered that in normal individuals, both male and female, these two factors can be separated, if at all, only with the greatest difficulty.

The assertion made by many writers, and particularly by Lombroso, that women have less sexual feeling than men is by no means proven. While complete lack of sexual feeling undoubtedly does occur in women, this is often a result of errors of training and the artificial life imposed by certain notions of culture. Under normal conditions it is doubtful whether women are sexually any less excitable than men.

Before proceeding to a description of the individual anomalies of the sexual impulse it will not be out of place again to explain that not all that is anomalous need for that reason be pathological, and that within the confines of health, deviations and variations from the normal occur everywhere, so that due consideration must always be had, even in the sexual field, for individual peculiarities. Where the "anomalies" are to be considered pathological, a connection between them and some disturbance of cerebral function will have to be shown; for only after that has been done can an anomaly of sexual sense be looked upon as a manifestation of mental disease, as an insanity in its technical sense. The presence of a psychopathy by no means signifies that a coexisting sexual anomaly is necessarily dependent upon disease. A paranoiac may acquire and cultivate a vice just as well as a person of sound mind.

There exists no entirely satisfactory classification of the various sexual perversions. Most recently Hoche, Ziehen and Raecke have emphasized the inadequacy of the classifications previously employed, which took for their basis the objects to which the anomaly in question was directed (homo-sexuality, Sadism, masochism, etc.); and instead of these proposed a division into anhedonias, hyperhedonias and parahedonias, all of which may be constitutional, may be associatively implanted or may arise compensatorily.

While we admit fully the need for the change advocated, we retain the nomenclature employed by the older writers, particularly by Westphal and Krafft-Ebing, as the one best adapted to the purposes of the present writing.

1. Sexual Paradoxy (Anachronistic Anomalies)

Let us begin our consideration of the individual anomalies by a description of those manifestations of sexual impulse that are abnormal in so far as they are anachronistic—that is, they occur at a time when, in consequence of the then existing anatomic physiologic conditions, no such manifestations should be present. The anomalies thus designated are those that occur in childhood and in senility.

Wheresoever in childhood local sexual desire manifests itself without any preceding peripheral irritation, there must always be a suspicion of some neuro-psychic disorder. Of course other proofs must be furnished in each individual instance before a diagnosis can be made, for the physiological limits within which such desires should arise are very wide, much more so than was formerly supposed to be the case. Physical and psychic manifestations of the sexual impulse, aside from the sexual desire that is localized in the genitals, do occur in healthy children and are by no means so infrequent as to be considered abnormal. Where such manifestations set in around the tenth year of life there need be no question of any pathological import, but it is doubtful whether this statement could apply to similar manifestations occurring at the age of five or six.

Similarly there is no definite period in old age at which the sexual desire ceases to exist. This does not apply only to men, for in women, too, the sexual impulse does not pass away with the onset of the menopause and sexual desire may persist to an advanced age. Hence, in both sexes, sexual excesses may not be looked upon as pathological manifestations merely because they occur at an advanced period of life. When, however, after having been extinct, and particularly in the presence of accentuated decrepitude, the impulse suddenly reappears in force, this fact may be considered evidence of the existence of disease of the central nervous system and it will then usually be a question of pre-senile or senile dementia.

2. Quantitative Anomalies

In considering the quantitative anomalies we should bear in mind that the intensity of sexual desire and sexual needs will

vary greatly within the confines of perfect health in different persons, according to their individuality, age, constitution, temperament and mode of life, according to climatic and other conditions of nature and according to social surroundings. Withal we should not forget that anomalies, just because they are anomalies, do not indicate the existence of disease.

Turning then to the abnormal increase of the sexual impulse, we must ask, Where does this increase begin to be pathological? All observers are agreed that it is most difficult to determine the borderline in each case inasmuch as the physiological and pathological demarcations of the various forms shade one into the other. Even the theoretical boundaries established by writers upon the subject have not always been sufficiently precise. I for my part believe that augmented excitation of the nerve centers through peripheral stimuli, a state of increased irritability of the centers themselves, as well as the local neuroses of the genital sphere, are neither sufficient nor necessary to characterize an anomaly as pathological. In my estimation it is entirely a question of the abnormally intense or abnormally frequent excitation that is conducted from the brain to the spinal centers or of an abnormal reduction of inhibition of excitation stimuli. This view is also that of Casper-Liman, Tarnowsky, Krafft-Ebing and Eulenburg. The state thus defined has been generally designated as "sexual hyperæsthesia," a form which Eulenburg considers misleading and for which he would, therefore, substitute that of "hypererosia," or "hyperlagnia." The not entirely acceptable terms "erotomania" and "aidomania" have also been much employed in this connection. When applied to the male sex the term "satyriasis" is common; when applied to the female sex "nymphomania" is generally used.

Frequently this augmented impulse will be found implanted upon an epileptic or some other neurotic degenerative basis. It may exist as a permanent state, or may occur periodically or as an episode of some other condition, and may be associated with a clouding of consciousness. It may occur with unconquerable violence and may then lead to rape or other sexual or non-sexual excesses. Its episodic occurrence may take place in epileptics as an equivalent of an attack, or in mania in the manic phase of a manic depressive psychosis, in dementia paralytica, or in disorder after injury to the head, as well as in idiocy. Chronically

it occurs in some of the states we have mentioned, as well as in exhaustion after excesses. In the latter instance it is often accompanied by priapism, and will manifest itself in coitus equivalents. In woman the nature of this impulse is similar to that in man, from which it differs only in some manifestations due to the existing variance in conditions. Analogous to hypererosia as regards its nature and causes is the reverse anomaly, the pathological diminution of the sexual impulse, "anæsthesia sexualis," "hyperosia" or "hypolagnia." This is dependent upon congenital defects or upon an acquired pathologically diminished brain function. Usually its basis is hereditary degeneracy, or functional or organic brain disease. Its forensic significance may lie within the domain of civil law, as for instance a non-compliance with the *debitum conjugale,* or within the domain of criminal law, when it leads to non-sexual crimes rather than to those that bear a manifest sexual impress.

3. Qualitative Anomalies

Turning from the quantitative anomalies of sexual sense to the qualitative ones we enter upon the field of the so-called sexual perversions, "paræsthesia sexualis" or "parerosia." Their varieties are legion and they are in part apparently so different from the manifestations of the normal propagational impulse that it must be doubtful whether the term "anomaly" as applied to them is at all fitting. Hence, the designation "aberration" seems to me to be a more descriptive one.

While the normal sexual impulse tends toward a junction of the male and female sexual parts, in many of the aberrations to which we now refer the sexual organs as such play no part whatever. Thus may be explained the extraordinary statement that has crept into literature that there exists a sexual desire which is entirely independent of the sexual organs.

No matter how extreme these aberrations may be, they are all distortions of a normal impulse. Forensically their practical import is essentially, even if not exclusively, of a criminal nature. Civilly such aberrations have been of importance only in relation to suits for divorce, although other bearings may well be imagined. Thus it might well happen that a person who is the sexual

slave of another might make gifts of such importance that a legal contest for their recovery would seem proper.

The various perversions may be classified according to certain main types, but these cross one another theoretically as well as practically. It, therefore, seems well to me to divide the material at our disposal so as to cover the question whether the basis of the attraction is between man and woman or between persons of one and the same sex.

A. HETEROSEXUAL ANOMALIES

In the heterosexual anomalies it is true the inclination is toward the opposite sex, but at the same time it is markedly modified by various intercurrent anomalies. Of these the following may be differentiated:

(1) Coitus associated with such non-essential acts as appear subjectively to be essential lust-producing factors.

(2) Coitus-like acts.

(3) Sexual symbolism, in which the lust is dependent upon a symbol.

(4) Algolagnia, in which the lust is produced essentially by some act of cruelty.

This classification does not include an abnormal manifestation which is actually encountered as an individual type, but which may be looked upon as an independent type of disease, a "perversion" or essentially as a type of vice dependent upon "perversity." I refer to the desire to copulate with sexually immature individuals. The normal sexual impulse desires what is mature. Violation of children must appear atrocious to even the coarsest individual. Still the sexual attraction that a young woman or a young man who is not matured may possess for certain men or women may be comprehensible. At times the stage of maturation has taken place before the legal age for sexual consent has been attained. Instances of seduction under such circumstances do not concern us here, as they present nothing pathological. It is entirely otherwise, however, when puberty has not yet set in, or particularly when it is still far distant. Coitus with such young persons may often be explained by the quantitative anomaly hypererosia, particularly in the absence of any other outlet for the excessive desire, or by the

existence of dementia of various kinds. As a typical manifestation, however, we meet with this pronounced tendency to violate immature girls more especially among the inhabitants of large cities and in members of circles surfeited by luxurious modes of life. The fact that in the majority of these instances it is vice and not disease that obtains does not relieve us, of course, from the necessity of investigating the circumstances that attend each individual case, especially as the relationship between crime and insanity is a close one, and because a dissolute mode of life may be but the stepping stone to brain disease.

Let us now consider the anomalies in the order given:

(1) Coitus Associated with Non-Essential Acts appearing subjectively as essential lust-producing factors.

Here it is a question of more or less commonplace or eccentric and often disgusting acts that are preparatory to or accompaniments of coitus, and which serve to increase the individual sexual enjoyment or even to render the coitus itself possible. These acts need not bear a direct sexual impress, but may, objectively viewed, appear to be entirely indifferent, in such instances the excitation of the sexual desire is aroused through transmission by one of the organs of special sense. Thus Eulenburg, among other relevant instances, reports one in which the man was able to have connection only after the woman had painted her abdomen blue. Such manifestations, in the absence of any pathological factor, may be harmless diversions; on the other hand, in connection with other symptoms, they may be indications of mental disorder, particularly so the more necessary they individually are for the performance of the act of coition and the more disgusting their character.

The causation of mild pain by tickling and beating belongs to such acts. While this in itself is not pathological, for it is a physiological fact that lust is increased by tickling and beating, all such occurrences should arouse a suspicion of a certain enfeeblement of potency. When actual torture is inflicted, however—and to this we shall refer again—a pathological state probably exists.

(2) Coitus-Like Acts. A further step upon the field of heterosexual anomalies takes us to the point where the anus, the axilla, the intermammary space and the mouth are substituted for the vagina. The desire for such "displacement" originates

partly with man, partly with the woman herself. It may often be due to the desire to prevent conception, to an abnormal anatomical conformation of the woman, or even to a fear of contagion, in all of which instances, of course, pathological consideration cannot obtain. Often also it is the consequence of oversatiation in the normal sexual field. The same circumstances that have led to the oversatiation may constitute a factor for the causation of mental disorders. Hence, notwithstanding the existence of a previous history that would indicate vice, disease may be present. Just as there are psychic epidemics, so an entire people or, what is more frequent, an entire social class, may become infected by a vice implanted upon a soil that has been prepared by noisome conditions; then an unnatural abandonment similar to that which the individual discovers for himself as the result of sexual surfeit makes its appearance in so and so many others in consequence of the imitative impulse. Neuropathic degeneration may often constitute a factor in the dissemination of such "functional" vice. Of course, where the sexual impulse shows such anomalous tendency without being satisfactorily explained by oversatiation or social infection, particularly where it is characterized from its inception by a repugnance to coitus, we are warranted in assuming more than a neuropathic taint, and upon careful investigation we will be able to discover other symptoms which speak for the existence of actual disease.

Analogous significance is to be attached to other unnatural acts known as "succare," "fellare" and "cunnilinctus."

(3) Sexual Symbolism. Closely allied to the anomalies thus far mentioned is that other class in which the actual object of sensual attraction appears to be something other than is the case in normal sexual desire. These cases have been designated as sexual symbolism. In them a certain representation or substitution of the normal object, traceable to sexual association of ideas, takes place. It is not the totality of the individual, not even the totality of his body, that constitutes the attraction. The "lover" confines his "love" to a part of the person, to a part of the body or to a psychic quality, or he concentrates it upon things that belong to but are not part of the person. The less the actual object of attraction partakes of the normal or, from an objective point of view, the more repulsive is the sub-

stitute, the more pronounced must the anomaly be considered. Usually it will be found to be based upon a certain impotence combined with psycho-sexual degenerative disorders.

(a) Sexual fetishism. In accordance with the suggestion of Binet and of Lombroso, the first of the subdivisions of symbolism is called "fetishism." This name is derived from that form of religious worship in which the deity itself becomes subordinate to tangible derivative objects, as, for instance, relics. An analogous substitution of a part for the whole is found in the sexual domain, as when a certain part of the body, such as the hand or the foot, constitutes the more or less exclusive attraction for the "lover."

(1) That certain parts of the body should excite special interest is in itself nothing abnormal, and within physiological limits is not of infrequent occurrence. It is abnormal, however, when a single part absorbs the interest to such an extent that nothing but indifference is felt for what is left, particularly when the part in question is not material for the copulative act itself. The anomaly may manifest itself, for instance, in being attracted by nothing but a foot that is dirty, or by a part of the body that is markedly deformed. The practical criminal significance of this anomaly is evident. Every now and then the judicial procedure conducted against the man who cuts braids of hair from the heads of women brings it directly into public view.

(2) While the individual value the lover may attach to a certain kind of dress or to certain articles of apparel worn by the object of his love can to a certain extent be physiologically explained, we must assume the existence of a pathological state when the interest in the woman herself becomes subordinate to the interest in her apparel. Here also we meet with variations in degree, the most pronounced of which probably is that in which a piece of wearing apparel represents the sole means for satisfying the sexual desire.

(3) Still another grade of fetishism is present when certain materials, as such, serve as independent stimuli of the sexual desire—that is, materials that have not been made up into clothes nor are subjectively thought of in their relation to clothing. This statement refers particularly to silk, velvet and fur.

According to Krafft-Ebing, wheresoever pathological fetishism has thus far been observed it has been found to be based entirely

upon a psychopathic constitution or to have occurred in conjunction with actual psychic disease. This writer also believes fetishism always to be an acquired state, or, as Binet had previously pointed out, always to be explained by the occurrence of some special determinative cause in the life of the fetishist.

Fetishism in woman is said by Krafft-Ebing and others not to exist. It may well be that sexual love in women less often leads to flagrant excesses than it does in men, and for this reason less often is the cause of legal investigation, but that fetishism is occasionally encountered in a very marked form in women has been shown by Moll. Erotic kleptomania, a form of erotic fetishism in which the fetish that is to satisfy the sexual desire must be obtained at all hazard, even by theft, is encountered only in women. Such women are often in good circumstances, and never attempt to convert the stolen things into money.

(b) Lasciviencies. Still another group of symbolism is constituted by those anomalies represented essentially by certain lasciviencies—that is, acts of a voluptuous nature which, however, do not go so far that they may be looked upon as physiologic substitutes for coitus, as is, for instance, masturbation.

Coitus has been classed among the anticipatory pleasures. As a matter of fact the act itself is preceded by a stage of psychic ecstasy from which certain natures derive quite as intense gratification as from the copulation itself.

This anticipatory character of coitus manifests itself, however, in still other ways. The mere notion of coitus may be accompanied by a feeling of lust, which is still more increased by the cooperation of the organs of special sense, as for instance by the sight of obscene pictures or sensual acts. Not only impressions of sight and touch, but also the other sense stimuli, particularly those of taste and smell, act as cooperative factors in this regard. This is a physiological fact upon which a number of sexual excesses depend. We have now in mind those acts which of themselves do not constitute a physiological satisfaction of sexual desire, and refer particularly to the pleasure that is taken by many persons in looking at obscene pictures, in sensuous manipulations, in listening to sensual conversations, in sensual literature, etc. In all of these instances it is not only the sensory titillation that these perceptions arouse in the individual imself that produces pleasure, but a peculiar satisfaction is also

derived from having brought about such perceptions in other persons. Such pleasures are often obtained through indiscretions of all kinds. This is true even of the visual offenses committed by the "*voyeurs*" or "peepers," for which the Apocryphal instance of "Susanna in the bath" may serve as a typical example. Of special practical importance, however, are those acts by which other persons, with or without their consent, are subjected to lascivious intimacies and to the perception of sensual exhibitions. Such acts, as offenses against public decency, not infrequently constitute causes for criminal procedure. The ones most frequently encountered—aside from forcible osculation—are touching the breasts of a woman, tapping certain parts of her body, and whispering obscenities into her ear.

In estimating the nature of such manifestations we must determine whether they are merely individual occurrences, whether they constitute an essential part of the person's sexual life, and whether they have taken place in a potent or an impotent individual. Occurring during complete potency, as an occasional expression of exuberance or lasciviousness, particularly under the influence of alcohol, they have no special significance; nor are they deserving of particular consideration during the stage of developing or of declining sexual powers.

But when pronounced infractions against decency are committed by previously well-behaved individuals, or when a clear inherent tendency in contradistinction to an occasional excess is present, the existence of disease may be assumed. Then, however, other symptoms will be found that would indicate the presence, for instance, of senile dementia or a paresis.

There still remain those instances in which the sexual desires of an individual who still is within the normal period of sexual potency manifest themselves mainly in the direction of lasciviencies, although ample opportunities for coitus exist. The cause for this state may be either a physical impotence or a certain psychic impotence that has been produced by a surfeit of the normal sexual pleasures. If none of these assumptions is upheld by the facts, a psychic anomaly must exist which will be the more severe the more pronounced is the aversion to coitus. That such an anomaly is pathological can hardly be doubted. The following main types may be differentiated:

(1) The "*frotteurs*," whose sexual impulse manifests itself

essentially in rubbing themselves against women in crowded streets, in the cars, etc. An analogous tendency is that which expresses itself in touching, tapping or striking certain parts of the female body.

(2) The *"exhibitionists"* who in the presence of women or men ostentatiously display that part of the body which decency otherwise requires to be covered, their purpose being to arouse sexual excitement in themselves or in the onlookers. The manner in which this is done is almost always the same. Some go out upon the streets wearing a costume specially arranged for the purpose, the genitals being covered by an overcoat or wrap which at the opportune moment is opened or drawn aside.

(3) The *"verbal exhibitionists,"* who satisfy their lust by whispering obscene remarks into the ears of passersby.

(4) The *"ideal exhibitionists,"* who have a passion for showing lewd pictures or writings.

(5) The *"voyeurs"* or *"peepers,"* who satisfy their sexual desires by the contemplation of naked women.

Related to individuals of this category, probably, are those who content themselves with staring at fully clothed women and imagining them to be naked. This procedure has been called illusionary cohabitation.

Actual exhibitionism, which is the form that most often takes up the attention of the courts, when it is a pathological manifestation is dependent upon intellectual or moral feeble-mindedness, or at least upon a temporary blocking of intellectual and ethical functions, associated with an augmented desire and often accompanied by a disordered state of consciousness. Frequently it is associated with an oppressive state of fear which finds an outlet in the exhibitionistic act. Epileptics constitute a relatively large contingent of such performers, and the twilight states seem to be the period in which it most often occurs. Exhibitionism is also frequent in senile dements, paretics, the feeble-minded and alcoholics. It is often met with in inveterate as well as in occasional masturbators, in neurasthenics with transitory psychic disorder and in neuropaths of other kinds. The exhibitionists in whom the determination of legal responsibility causes the greatest difficulty are the habitual exhibitionists who know precisely what they want. They represent the largest contingent of those whom we encounter, and occupy the borderline

between health and disease, now leaning somewhat toward health, now somewhat toward disease.

Forensically every exhibitionist should be subjected to a psychiatric examination, for the act in itself must always create a suspicion of some existing mental disorder. In women, exhibitionism is of infrequent occurrence.

The tendency to lascivities appears with special emphasis in the manifestation known as Pygmalionism and its subdivisions, a group of anomalies which is directly allied to the class of "*voyeurs*" and "illusionary cohabiters," of which we have just spoken. The basal form is represented by a passionate affection for statues as typified by the Greek sculptor and King of Cyprus, Pygmalion. This passion has repeatedly in ancient and modern times led to a violation of marble, bronze or wooden images.

A derivative of this form is instanced by the custom of superannuated libertines in having naked women pose as statues, then arousing them to life in order, if possible, to subject them to sexual intercourse. Still another grade is that of necrophilia, the carnal passion for dead bodies and the violation of corpses.

Finally, as constituting still another form of symbolism, we must refer to that group in which the excrements from the female body constitute the object of sexual attraction.

(4) Algolagnia. The parerosias to which we have thus far given our attention have been characterized by an aberrent direction of the sexual desire.

A different category of anomalies, which Eulenburg was the first to collate and to designate as "algolagnia," is made up of those in which the sensual experience is markedly modified by the feeling of humiliation, degradation, violence or cruelty that accompanies it. This subjection, degradation, etc., may exist in two different ways, being either a material factor in the mind of the person who enforces it, or in that of the person who experiences it. In the former instance we speak in general of Sadism, in the latter of Masochism. Let us now turn to the first group and give our attention to Sadism in the male.

(a) Sadism, or lagnanomania on the part of the man. In the copulative act, the man appears to exercise the aggressive, and the woman the receptive part. In the psychic domain of love there exists an analogous condition, in that it is usually the woman who subordinates herself, while the man strives through

possession, to gain a certain dominion over the woman. When this spirit of domination constitutes an essential factor, or when it preponderates so that every other feeling is forced into the background, it becomes an anomaly. Moreover, it is a fact that without transgression of the physiological limits, both man and woman during the supreme ecstasy of coitus may commit acts such as biting and scratching which are not far from brutal. This becomes an anomaly when such acts are manifestations of a permanent state of mind, when they are vital for the production of sensual pleasure, when the tendency to commit them is so great that it overtops or precludes all other feelings and particularly when these acts bear the impress of actual cruelty. On the other hand, it is also a fact that cruel acts, in their turn, are capable of producing notions of sensual pleasure.

The exaggerated sense of dominance expresses itself by the dispensation of humiliation and chastisement; exaggerated humiliation leads to degradation, exaggerated chastisement to cruelty and brutality.

Dominance, in its most extreme manifestation, is represented by destruction of the dependents. Thereupon destruction also constitutes the greatest satisfaction that the feeling of dominance is able to give—a satisfaction that, however, thwarts itself as it brings about the permanent loss of the subservient subject. Excessive cruelty caused by excessive sensuality, when carried to its extreme limits, may, of course, lead to a similar result.

Wheresoever in the domain of sexual life we encounter such excrescences as actual happenings, it is fair to assume the existence of mental disease; but never should such acts in themselves serve as proof of disease, for there is no form of horror or brutality so repugnant that it may not occasionally be committed by a person who is in mental health.

As a psychopathological manifestation Sadism (so-called after the Marquis of Sade, whose life and writings picture the condition) is dependent preeminently, at any rate in its most pronounced form, upon congenital or acquired feeble-mindedness, upon alcoholism, hysteria, epileptic psychoses or senile dementia. Moreover, it occurs not only as a chronic state, but also episodically.

In estimating the severity of each individual pathological case, we should remember that the objective state of affairs should

never be taken as a measure for the degree of existing disease. This is important, because without reflection we would be inclined to attribute instances of slight maltreatment to a mild degree of mental disturbance, and vice-versa. At the same time it cannot be denied that such relationship often does actually exist. The diversity and grades of these cases are unlimited, and each one must be appraised in accordance with all the attendant circumstances. Let us now attempt to give a sketch of the main types:

First to be considered are the acts of simple humiliation. The woman, for instance, is forced to kneel before the man, to kiss his foot, etc. Insistence upon humiliation in public is not exceptional. Or the woman is subjected to degrading indecencies, such as urinating upon her body, etc. Occupying a position between humiliation and maltreatment are those instances in which ink, acid, feces, urine, etc., are thrown upon strange women in the public streets.

It is in the field of maltreatment that we first encounter what is known as active flagellation, either preceding the act of copulation or supplanting it entirely. In such cases we usually find partial or total impotence as a factor. It is here also that we meet with scratching or biting of the woman's body, with or without coitus. Of eminent forensic significance is the sticking of needles into one's own body until the blood is drawn. A typical example of this practice is found in the Marquis of Sade.

Actual laceration of the body may be the result of such procedure. The culmination of barbarity is represented by what is known as lust-murder, in which the killing may precede or follow the coitus, or it may take place without any copulation, being of itself the means of satisfying the sensual desire. Such murder occasionally takes the form of the most horrible mutilations and dismemberment of the woman's body. Sometimes parts of the corpse, the specifically sexual ones, are set aside to be used later for sensual satisfaction. This last mentioned factor now and then constitutes the main and exclusive purpose of the murder, from the very beginning. In some cases the murder may be purely symbolic. When this happens, no attempt may be made to outrage the integrity of the living woman, and all barbarity may be lacking except as it exists in the imagination of the aggressor. Then, too, the individual may content himself with any

existing female corpse, which is violated, dismembered and perhaps anthropophagously employed.

Symbolism is also the explanation for the substitution of the bodies or other individuals or animals for that of woman. This statement, of course, applies as well to the baser forms of violence and cruelty, above all to flagellation.

(b) Sadism on the part of the woman. In what has preceded we have considered Sadism in man. So far as Sadism in woman is concerned, there exist up to the present time but few actual observations. In romantic literature and in history, however, many instances are to be found which can be understood only in the light of female Sadism.

As compared with male Sadism, the female form presents no peculiarities even if our consideration be confined to the barbarous practices that are dependent upon sensual pleasures. It is different, however, when we consider those acts that bear not so much a sensual, barbarous impress as a specific humiliating, submissive or subservient character. When committed by the man these acts are the outgrowth of the normal desire to have possession of the woman; on the part of the woman, however, they imply an anomalous inversion of the normal instinct of subjection to the man, and hence no longer belong to the domain of actual heterosexual anomalies.

(c) Masochism or machlachomania. The opposite of Sadism is Masochism, an anomaly in which humiliations, acts of violence and maltreatment are endured with a feeling of sensual pleasure.

We have already referred to the fact that mild pain may act physiologically as a sexual excitant. It is anomalous, however, when the blows or even actual maltreatment are endured because they constitute the essential or dominating factor in the perception of sensual enjoyment. We have also stated that love in woman is normally characterized by a certain subordination to man, just as in the sexual act the woman bears the passive part while to man is apportioned, physically as well as psychically, the more active rôle.

This, however, by no means precludes the occurrence of epochs in the normal life of man in which he may find his happiness in submitting and subjecting himself to an adoration on the part of the woman. The occurrence of such passing fancies and extravagancies is, however, of no moment in a consideration of the

fundamental traits of man's love. Hence when a man possesses an inherent tendency to subjection we must consider this quality as one that is qualitatively foreign to normal male love, for he then appears in a rôle that belongs to woman and we are dealing with an inversion.

This same mental tendency to subjection becomes an anomaly only when it is exaggerated and therefore merits consideration solely as a quantitative anomaly; it becomes a qualitative anomaly only when the tendency to subjection loses its secondary significance, when the subjection becomes a main factor in the woman's existence. It is such anomalies that constitute the chief subject in the work of the Austrian novelist, Sacher-Masoch (1836 to 1895) after whom the scientific designation "Masochism" has been formed.

(1) Masochism upon the Part of the Man. Masochism as a manifestation of disease has been found to exist in man essentially upon the same pathological basis as Sadism.

What the Sadist tends to inflict is in the main what the Masochist sensually desires to suffer, except that the severe forms of aggression against his physical integrity are pictures of his fantasy and are not longed for in the shape of actual realities. Naturally Masochism occurs in different forms and intensity in different individuals. In so far, however, as the Masochistic percepts or Masochistic acts in their entirety are concerned, it may well be said that the most vivid imagination cannot construct anything in the line of humiliation, degradation, maltreatment, etc., that has not imaginarily or actually formed part of the lustful experience of one Masochist or another. As in Sadism, so in Masochism there exists a symbolism. In this regard let us bear in mind especially the close relationship that exists between forms of Masochism and fetishism. In fetishism it is, for example, the foot or the shoe of women that constitutes the special part which is the center of interest; in Masochism this part assumes its importance as a means of humiliation, as a means of maltreatment. Thus it may happen that an individual will "love" the foot in particular, not according to the fetishistic principle of the part for the whole, but rather as the visible attribute of the master's power. In conformity with the nature of Masochism the foot kiss will afford the Masochist abundant sensual pleasure as compared with the fetishist, for naturally the

humiliation will be greater when the castigation is not merely accepted than where the one who inflicts the castigation is also looked upon with a feeling of reverence and thankfulness.

(2) Masochism upon the part of the Woman. Actual experiences with Masochism in woman seem to be very infrequent. But wheresoever it has been encountered it does not seem to differ from that which has been noted in man.

In concluding this chapter, a statement that applies to Sadism as well as to Masochism may not be out of place, viz., that the individuals thus affected frequently ascribe the commencement of their anomaly to certain accidental occurrences in the early years of their life. Such statements should always be received with a full understanding that the actual cause of an anomaly should not be confounded with the incident that first gives rise to its manifestation. No doubt the anomalies now under consideration, as well as all others, may be the direct result of certain factors, but in the majority of instances a disposition to their development based upon an inherited psychopathic taint will be found to exist.

Although all typical Sadists and Masochists have many psychic traits in common, it will be found that the Sadists as a rule are energetic, unscrupulous and barbarous in all their tendencies and actions, while the Masochists will be found to be undecided, weak and servile, but withal treacherous and revengeful. Nevertheless, Masochism and Sadism, notwithstanding their partial antithesis, may exist together in one and the same individual, just as any combination of the heterosexual anomalies thus far considered may be present without any sharp line of demarcation.

Forensically the Sadist is more often brought to the tribunal of justice than the Masochist. It is manifest that the violation of dead bodies, the personal injuries and personal insults that occur in Sadism will be judicially punished, while the Masochist always is a placid sufferer.

B. HOMOSEXUAL ANOMALIES

Let us now take up another class of anomalies which is characterized by a sexual inclination toward one's own sex, and which has been designated as uranism, homosexual parerosia or sexual inversion. Various theories have been propounded to

explain this manifestation, and of these that of Krafft-Ebing seems to be the one most acceptable. He starts from the fact that three component parts of the sexual system are interconnected by nerve tracts and stand in a functional mutational relationship to one another. These parts are:

(1) The sexual glands and organs of fructification.

(2) The spinal sexual centers, having inhibitory, excitatory, nutritional and secretory functions, and

(3) The cerebral sexual centers as somato-psychic factors.

He argues that the parts first mentioned (sexual glands and organs of fructification) are at first bi-sexual in the fœtus, and develop their monosexuality only in the third month of fœtal life; and, on account of the intimate connection and the mutational relationship of these three parts, that the primarily bi-sexual disposition of the parts first mentioned also presupposes a primary bi-sexuality in the other domains and that similarly the monosexual development of the first mentioned part necessitates a monosexual development of the two remaining ones—hence, also, of the cerebral part. At the same time he draws the conclusion—which he has found corroborated by experience—that normally the cerebral center and the corresponding sexual gland developed together—that is to say, where in the bi-sexual system the male glands develop while the female gland atrophies, the male cerebral center will also develop and the female cerebral center will atrophy. "The more pronounced this differentiation the more anthropologically perfect is the individual."

By assuming a degenerative disturbance in the harmonious development of the three sexual parts, he then explains the homosexual desire, and considers the degree of that disturbance to be determinative for the severity of the existing perversion. For instance, when in the case of a male gland it is the female and not the male cerebral center that develops, a homosexual tendency will arise which will be the more pronounced, and the more exclusive, the more perfectly this female brain center is developed. When, however, again assuming a male glandular development, the male and the female brain centers develop conjointly, a mental hermaphroditic development will ensue. The question of a hermaphroditic development of the gland itself does not concern us here, for in such case the psychic manifestations cannot be considered primarily anomalous.

Homosexual desire, therefore, according to Krafft-Ebing, is a degenerative manifestation, and clinically a degenerative symptom. This postulate, he holds, applies not only to the congenital but also to the acquired forms of homosexual desire. In so far as the congenital anomaly is concerned we cannot but endorse Krafft-Ebing's conclusions, as well as the consequent deduction in regard to the evaluation of the disorders that develop spontaneously during the stage of sexual development. That Krafft-Ebing's conception should apply to all other instances of this perversion cannot be admitted, however, so long as the action of other productive causes has not been excluded. In accordance with his conception, Krafft-Ebing very justly discountenances the idea, supported by Lombroso, that homosexual desire represents an atavistic reversion to animal type.

Let us now ask what form these perversions take. The reply to this question cannot be based upon any distinction between congenital and acquired homosexuality, inasmuch as all possible manifestations occur in both forms, although the last mentioned one seems to show a preference for certain acts. Frequently the desire is characterized by its extraordinary intensity, the love by its consuming fervency. Moreover, the combination of homosexuality with, or its modification by, sexual symbolism and Masochism is so frequent as to be almost constant. Its association with Sadism is much less frequent. In practice, therefore, we encounter homosexuality in every possible form, and also here it may be said that nothing can be imagined in the personal relations of two individuals of the same sex that has not actually occurred.

On the other hand, it is also a fact that in a comparatively large number of homosexual individuals the anomalous tendency never takes the form of an overt act. Some individuals are able so to control themselves that such acts are entirely avoided, or they take on the most superficial form, a sensual pressure of the hand sufficing to express that which in a person of less self-control might have led to the most pronounced excesses. Whether a person is able at a given time to control himself in such a manner will only too often be dependent upon circumstances that are to a large extent accidental, namely his general constitution, his condition of life, his education and above all his early training.

Even under the best conditions the moral vulnerability of such an individual will always hang upon a thread; any slight disturbance of mental poise, due perhaps to a glass of wine too much or to a sudden disappointment, may cause his downfall. Then, as a rule, the fallacious conclusion will be drawn that, having been strong enough all his life to master himself, he should have been able to do so this time.

Deserving of special consideration in this connection is the inhibitory power exerted by that broad culture that enlarges a person's horizon and places him upon a higher plane. It is this factor that is so often lacking in many sexual perverts who are particularly talented intellectually or artistically and thus naturally occupy unusual positions in life.

Let us now turn to the individual kinds of homosexual anomalies, taking up first the congenital form in the male.

(1) Congenital Homosexual Parerosia in the Male. The mildest form of manifestation here is represented by what has been called psychic hermaphrodism, in which there exists side by side a sexual desire for men. In such instances Krafft-Ebing has said that the desire for women is always much weaker than that for men and is present but episodically. As a result of my experience, I know that the reverse conditions, as well as one in which the desire is equally proportioned, are not infrequent. With Krafft-Ebing's statement that under certain conditions such hermaphrodisia may develop in complete homosexuality I am in full accord.

The next stage is characterized by complete homosexual—that is, by a desire exclusively for the male sex, marked indifference toward the female sex as such, and an aversion or revulsion against coitus with woman. In other ways the mental habitus and the entire conformation of the body are of the male type. This is the type known as uranism or urningism. Here the homosexual love is for the most part extravagant, capable of great sacrifice, and by no means exclusively sensual. In his sexual relation the urning always has the sensation of the male, even where his rôle is the sexual act is a passive one.

Paedicatio (pederasty*) is most exceptional. The urning is usually also a neurasthenic. Very frequently all sorts of pare-

*The term "pederasty" is much used to designate actual *immissio in anum*, whereas in ancient Greece it was applied to homosexual love in general.

rosias and hyperosias coexist, and thus create manifold variations in the nature of the sexual relations.

The less typical forms of urningism are more like the next stage, *effeminatio*. Here the physical conformation is male, the psychic habitus female. There exists a disinclination for specifically male occupations, distractions, games and sports, with a tendency toward the corresponding female things. Female taste in dress and reading, a positive disgust for sexual intercourse and exclusive desire for the passive rôle in sexual intercourse with men and exclusively female sensations in all sexual acts are among its traits. Anal coitus is not of frequent occurrence. Copulation with sexually immature male individuals, according to Krafft-Ebing, has never been noted. When the female mental attributes are associated with a physical conformation that approximates the female type, we speak of androgyny. There are, however, various connecting links between the latter and *effeminatio*. The physical anomaly to which we have referred implicates the bony structures, and adipose tissue, the facial conformation, the voice, etc., while the sexual organs themselves are male throughout, although otherwise often degenerated (epi- and hypo-spadia).

(2) Congenital Homosexual Parerosia in the Female. Congenital homosexual parerosia in woman is represented by four grades that are analogous to those encountered in the male. They are:

(1) Psychic hermaphrodisia; (2) female urningism; (3) viraginity (*effeminatio* in man); (4) Gynandria (*androgynia* in man).

These gradations are of course not so sharply differentiated by their sexual acts as are the homosexual relations in man, in whom the body conformation admits of more characteristic differences. Above all, however, the instances that have been actually observed are very sparse. The less aggressive nature of female love, the peculiarity of most statutes in ignoring sexual offenses between woman and woman, and possibly also the greater skill in dissimulation possessed by women, as well as the persistence of potency even when there exists a disgust for coitus, may to an extent explain this fact.

So far as concerns the terminology, "Lesbic" or "Sapphic love" should be noted as a general designation of sexual inter-

course between female and female, and "tribadism" as descriptive of manipulation of the sexual organs of the opposite sex.

(3) **Acquired Homosexual Parerosia.** Homosexual parerosia may also be acquired. This is possible in various ways. Even within the confines of homosexuality we know that the originally lighter form may under certain conditions become transformed into the more serious ones. These conditions are represented above all by improper training, evil associations, misdirected reading, and an enfeeblement of the general constitution, but more especially of the entire sexual system and of the moral stamina of an individual. A person originally mentally and physically healthy, cultured and morally well-trained, may through slight provocations gradually become the contrary of his former self. He commits an indiscretion, forgets himself again and again, his moral sanctity is violated, his ethical foundation becomes more and more unstable; excesses in *baccho et venere*, regrets, sorrow and anxiety, over-exertion in order to retrieve what has been lost represent the early stages; indolent acquiescence to his passions and to the fortuitous conditions that surround him make up the final act of a cataclysm. Thus there can be no doubt that in a person originally healthy and mentally sound, acquired moral deficiencies and occasional abnormal sexual acts may gradually lead to inherent sexual anomalies. All the more possible may this be, therefore, when a neuropathic basis exists, and particularly when the individual belongs to a social class in which such sexual acts are so customary that they serve as a direct means of psychic infection. Beyond this, however, we cannot go, for, as Krafft-Ebing says, no male individual who is free from hereditary taint will under any circumstances become a sexual pervert and find pleasure in taking over the female rôle. Moreover, he characterizes the anomalous desires of those persons as a "sexual degradation" and thus would seem to consider them essentially as a vice. Correspondingly this would apply also to woman. To me it seems that our experience upon this field is still not sufficiently large to warrant a conclusion so sweeping.

The acquired homosexual parerosias have been subdivided into numerous grades according to the dominance of the desire for the same sex. It is this attempt to classify and subdivide that has covered the entire subject with confusion and misunder-

standing. Ziehen has clarified matters by the following simple and comprehensible classification: He divides the qualitative aberrations of sexual impulse into four classes: the constitutional, the associative, the implanted and the compensatory ones. To the first category he assigns all true homosexual perverts with manifest lasting aversion toward the opposite sex and of whom some have deviations in their somatic sexual features; to the second he allots all those in whom a determining memory picture substitutes abnormal mental associations of the most varied kind for the emotional impress of the normal sexual act; to the third and fourth classes, respectively, are assigned those individuals whose perversion has been brought about by imitation, deduction or suggestion, and those who become perverts on account of lack of normal sexual satisfaction.

Psychopathological significance of homosexual parerosia. The foregoing classification leads directly up to the question whether and to what extent the different types of homosexual parerosia are to be considered pathological. As we have repeatedly emphasized, an individual act as such can never be decisive; any act can apriori be looked upon as pathological only in so far as it is the proper manifestation of a corresponding psychic tendency.

An outward manifestation that in one instance is due to a pathological state may in another be dependent upon other causes. Among the other causes that have a practical bearing in this regard are above all a surfeit of normal sexual connection, a lack of opportunity for such connection, sexual immorality or social infection. The last may embrace entire peoples, particularly when, as is the case in some of them, woman occupies an inferior position and the sexes thus, excepting in their marriage relations, are socially disunited. Typical of such condition are ancient Greece and the Orient of the past and of the present. Where we speak of the demands of an actual psychic desire, we of course mean more than simple liking or attraction. On the other hand, the desire need not be an exclusive one; the homosexuality of the psychic hermaphrodite constitutes a desire notwithstanding the coexistence of an attraction toward the opposite sex. Moreover, where an actual desire or proclivity has been found to exist, it merits our recognition as such quite as much when it is an acquired one as it does when it is congenital.

The question correctly formulated should be: In how far, in an individual instance, can the existing desire or proclivity be considered pathological? Krafft-Ebing is of the opinion that a pathological condition exists in all congenital cases. The group in which the homosexual desire is congenital, however, is, in my opinion, a very small one, much smaller than we would be led to believe from listening to the tales these homosexual individuals themselves tell of the early recollections of their manifestations. As a rule, a careful analysis of these recounted recollections will show them to be interpretations of harmless juvenile acts mostly colored by subsequent experiences. That some of the more serious cases are congenital and pathological, however, may be unreservedly acknowledged; but I am convinced that in all of these we will be able to discover other symptoms of mental disease as well. I admit that perversion, particularly in its more serious form, is a symptom of disease; but I cannot admit that of itself the perversion is to be accepted as proof of the existence of mental disorder. This is entirely in accord with general custom, which demands the presence of a symptom complex before a diagnosis of mental disease can be made. No individual symptom is pathognomonic. This, it seems to me, constitutes the vital point not only in a consideration of homosexuality, but also in the entire field of psychic sexual anomalies.

We will conclude this chapter on the anomalies of sexual sense by a brief consideration of the treatment they receive under the various systems of punitive law. We have already stated that their significance from the viewpoint of civil law is by no means negligible and that they very often lead toward offenses that formally have no relation whatsoever to sexual things. I am referring here particularly to the different manner in which the individual legal systems look upon these sexual offenses, that is, offenses against sexual propriety. One main difference is that in some countries sexual excesses become the object of legal regulation only from the viewpoint of State care. Thus in France anomalous sexual acts are punished only in so far as they are perpetrated with youthful individuals or in public or by force or threat. Other countries do not confine themselves to this point of view, but prosecute anomalous sexual acts as such. Among the latter countries we must again differentiate those in which sexual offenses (unchastity) between woman and woman

are completely ignored and only those between man and man receive attention; in some countries, moreover, unnatural relations between man and woman are punishable, while in others no attention is given to them.

Far-reaching differences finally will be found in the forensic appreciation of the subjective aspect of the acts that are dependent upon abnormal sexual desires. In by far most countries legal culpability is excluded when mental disorder has annulled free determination. Under other systems, however, as, for instance, that of the State of New York, responsibility is measured according to the "right and wrong" test.

Even under the first-mentioned system the psychopathological pervert may be unavoidably subject to undue harshness, but under the last-mentioned system punishment will be meted out to entire categories of individuals who on account of disease actually are free from blame, although apparently their intellect is still unaffected.

Part Fourth

THE FORMULATION OF THE EXPERT OPINION

PRACTICAL EXAMPLES

As we have stated, the scope of forensic medicine is the application of the facts of medicine and the natural sciences to the various fields of practical jurisprudence. It devolves most particularly upon forensic psychiatry to make such reports that the judge may determine in each instance whether an individual requires the protection the law accords to every person who is or was mentally irresponsible or incompetent. Whatever the purpose may be for which an expert opinion is demanded, whether it be to determine a person's criminal responsibility, his civil liability, or his need for a guardianship or internment in an institution, the task of the expert will always be simply to establish the person's mental state, or, in other words, to determine whether and to what extent any mental disorder is or was present. The psychiatrist should bear in mind that the fact that the making of a skilful diagnosis in a consultation with a number of colleagues is an entirely different proposition from the task imposed upon him when he is required to elaborate his opinion convincingly in a court of law. It must be quite evident that in formulating his views before a legal body he will have to express himself in other language than when talking to his scientific peers; for, after all, from a medical point of view, the judge is a layman, just as the physician must be considered a layman when he is confronted with a purely juristic problem.

In order to be able to estimate the medical expert's exposition at its true worth, the judge should have at least a general comprehension of medical matters. Likewise the physician who presents an opinion should at least be conversant with the views governing juristic actions. As a rule, the physician trained only for the actual practice of his profession will determine all states of disease from the viewpoint of their curative treatment. In forensic psychiatry, however, quite different considerations obtain. The application of medical, and more particularly psychiatric, knowledge to questions of law requires above all a clear

understanding of the purpose of the law—that is, the physician must know whether a certain mental state is such that a person suffering therefrom will require the protection of the law. Hence, the forensic psychiatrist must be familiar to a certain extent not only with the relevant statutes, but also with their often very diverse juristic interpretations. In the construction of a forensic expert opinion, scientific arguments should be avoided as far as possible. While the discussion of academic questions may be most interesting in a scientific society, it is entirely out of place in a court of law. The essential thing for the judge to know is merely that the expert giving the opinion is thoroughly conversant with the details of the science he represents. In many countries the only physicians allowed to testify as experts are men who are officially appointed to the court. In other countries it is the usual procedure to select the experts from among those specialists who have acquired eminence in their profession. Hence the judge will be perfectly justified in refusing to receive any scientific disquisition that he can follow only with difficulty.

The expert opinion should not consist of a detailed history of the case, but should be a statement of facts so presented that a layman can obtain knowledge of the incidents that are determinative for the question of mental responsibility or competency. Nor is it essential that a definite diagnosis be presented in all cases. Many instances of mental disorder do not represent distinct, definite types but are made up of pictures of degenerate, inferior individuals whose morbid state is constantly changing.

The advantages offered by daily careful observation in an institution are very important for the formation of an authoritative opinion. Yet in many instances such observation is not enough. Many of the borderline cases give but slight evidence of their peculiarities and abnormalities when they are under the care and restraint of a well-governed institution, and the irregularities are manifested only when in the struggle for existence the defectives are obliged to attempt to adapt themselves to conditions for which they are not fitted. Consequently particular consideration must be given to the statements of relatives and acquaintances of the individual under examination. But the statements of the patient and of his friends and relatives must always be carefully separated from the actual observations made by the expert. Never should a medical expert, as is so often

done, give a summary opinion that a specified person, "N. N." is "normal." He should state that he has been unable to discover any manifestation of disease. No purely summary statement, however, will be adequate, for what the judge desires to ascertain is whether, and more particularly why, the expert considers N. N. either mentally sound or mentally disordered. For that reason the expert should under all circumstances present an opinion that is well grounded and convincing to the court.

We shall now take up a few practical examples to illustrate the kind of opinion called for under specific conditions.

1. Guardianship Proceedings Instituted on Account of Pre-Senile Dementia

Proceedings for the appointment of a guardian for his mother, Anna K., 52 years of age, on account of business incapacity, had been instituted, by her son, Joseph K.

The undersigned, a specialist of twenty-one years' standing in nervous and mental diseases, was appointed to examine the said Anna K., and to report in regard to her mental condition. For this purpose she was examined ten times during the course of a month. The result of my examination, in brief, is as follows:

From statements made by Anna K. and her relatives I was able to obtain the following family and previous history. Her father had been a heavy drinker, and her mother had died of pulmonary tuberculosis. Two older brothers of Anna K. are alive and healthy. Though in childhood she was weak and nervous she was able to keep pace with her schoolmates of similar age. Menstruation set in around the sixteenth year. With the exception of scarlet fever, Anna K. does not recall having had illnesses of any kind. She married at the age of twenty-three and bore two children, one of which died a few weeks after birth, while the other, the son Joseph already mentioned, and now twenty-seven years of age, developed normally. A. K. denies the habitual use of alcohol or narcotics, and also denies having had any venereal infection. Some time ago the husband of Anna K. had an apoplectic attack, followed by paralysis. During this illness she nursed her husband with great devotion and, as a result of much loss of sleep, she soon became markedly exhausted. The description given by her relatives would lead us to conclude

that Anna K. had had a nervous attack, followed by a total loss of memory for recent events. This inability to retain new impressions, clearly noticeable by every one having dealings with her, was the immediate reason for questioning her mental integrity and for the application for the appointment of a guardian on the ground of incapacity to manage her business affairs.

My own observations enabled me to determine that the memory of Anna K. was very well preserved for the remote past, even for her early childhood, while her memory for present and recent occurrences was totally wanting. A more complete loss of memory than that found to exist in Anna K. can hardly be imagined. Within a few moments after she has heard the name of any particular person, together with full details of the relationship existing between her and that person, she will have no recollection whatsoever of anything she has been told, not even the name. This state of her memory is clearly demonstrated by her conduct when told of the death of her husband. She burst into a flood of tears, then suddenly ceased weeping and asked why she had been crying.

I examined her most carefully in regard to her memory for the far past. Having lived in Germany as a child, she was able to give the German designations for every object shown her. When requested to do so she could strike any desired note on the piano, and also when any melody she had formerly known was played or sung for her she was able to tell its name correctly. Her inability to connect past impressions with one another is in no way disturbed, and by this means she is able to draw inferences and deductions. Thus her notions concerning the season of the year and the time of day are evidently not derived from memory associations, but represent deductions from her observations. For instance, in the afternoon of a day early in November, she was asked what month it was. She first looked at the clock, then out-of-doors and then at the fireplace. On finding that the day was drawing to a close and seeing that most of the leaves had fallen from the trees and that there was a fire burning in the fireplace, she said it must be the end of October. Five minutes later, when asked the same question, she went through the same maneuvers, drew the same conclusions and gave the same answer.

Deep impressions seem to have quite as little persistence in

her memory as superficial ones, nor could I find that her memory for any one sense impression was better than for another. A visual impression is forgotten by her quite as quickly as an auditory one. Hence in Anna K. there exists a loss of memory manifesting itself simply in an inability to retain new impressions.

Marked restriction of the power of retaining new impressions is a characteristic symptom of senile dementia. This symptom, however, is also present in dementia paralytica, delirium tremens and in other psychoses. From this symptom alone, therefore, no definite diagnosis can be made. Further examination of Anna K., however, reveals the presence of still other symptoms which, taken in connection with a marked disturbance of memory for recent events, leaves no doubt that she is suffering from a premature senility. The patient is sullen, irritable and egotistic, which, according to statements made by her relatives, was not formerly the case. Her mood is predominantly depressive, sometimes apathetic: she is suspicious and reticent, believes she is being robbed and that her life is being threatened. Furthermore, I was able to note that her moral sense was decidedly lowered. My own observation, and this was corroborated by the statements of others, demonstrates that she has a tendency to act in an immodest way, that she is obscene in her talk and that she exposes her person in the presence of strangers. Moreover, many other symptoms of senility are present. Although she has by no means reached the period of old age, she makes a thoroughly senile impression. She has an opacity of the lens in both eyes, a general motor weakness, arterio-sclerotic attacks of dizziness and faintness, and a sluggish reaction of both pupils. Her handwriting shows the characteristic traits of senile tremor. Appetite and digestion are good, but her sense of satiety seems to be wanting, for she eats so long as anything is placed before her. This fact also shows that her memory for recent impressions, even when they are entirely physical, is lacking.

This combination of symptoms enables me to express the opinion that Anna K. is suffering from pre-senile dementia, the onset of which has been favored by a neuropathic heritage and by over-exertion. It is manifest that the condition I have described is one that requires legal protection inasmuch as patients of this kind are unable to safeguard their own interests. In this con-

nection, particular consideration should be given to the fact that all scientific authorities agree that the prognosis of senile dementia is unfavorable. Patients of this type who have no memory for recent events but have desires and sensual wants are likely to commit conspicuously immoral acts, and when they have free control of their own fortunes are liable to become an easy prey for all kinds of swindlers and adventurers. In order to protect Anna K. against her own harmful acts, as well as against unscrupulous persons, she should be placed under guardianship. An aggravation in her condition is to be expected, and when it occurs she should be confined in an institution.

DR. N. N.

2. INFANTICIDE DURING TRANSITORY MENTAL CONFUSION

Proceedings on account of infanticide having been instituted against an unmarried factory girl, L. M., age twenty-three, the undersigned was requested by the court to examine her and to give an opinion as to whether at the time the deed was committed she was suffering from any mental disorder that precluded free determination on her part. The previous history of the case, obtained through the District Attorney, was as follows:

On August 21st, 19—, the District Attorney's office having received an anonymous letter in which the above-mentioned L. M. was accused of infanticide, inquiries were instituted and it was ascertained that she had given birth to a child. A detective found the body of the child, tied up in a piece of sackcloth, lying under L. M.'s bed. She admitted the child was hers and that she had killed it by cutting its throat with a knife. Thereupon she was arrested and criminal proceedings against her begun. Inasmuch as L. M. was born in Austria and spoke hardly any English, all conversation had to be conducted by means of an interpreter. In this examination L. M. stated:

That on the 16th of August, 19—, at four o'clock in the afternoon, she went to bed and soon after gave birth to a male child. Immediately after the child had been born she reached for a knife which had been used for paring potatoes and which was left lying upon a nearby windowsill, and with it cut the child's throat. She then placed the child under the bedclothes next to her own body. There it lay until August 21st. Whether the

child was alive or not when she cut its throat she does not know. She did not hear the baby emit any sound at the time of its birth or afterward. She could not say when she first observed that she was pregnant. The father of the child was a married laborer, "D." The knife was one that had been in daily use and happened to be within reach upon the windowsill. She had committed the deed while excited and it had not been previously planned. No sooner had the deed been committed than she deeply regretted what she had done.

The autopsy performed upon the body of the child by the coroner's physician, Dr. S., demonstrated that the child was fully developed and viable and had actually breathed. The cause of death was a gaping wound that involved the soft parts of the neck and severed the trachea and œsophagus. At the umbilicus was found a 33 centimeter long cord, about which a string was tied.

At a subsequent inquisition on October 5th, L. M. added statements to those previously made. She said she had made no preparation for her confinement. It was her first child and she had no idea what to do. She believed the child to have come too soon, because she had a fall a day previous to its birth. On the day of her confinement she experienced some discomfort, particularly abdominal pains, and for that reason remained away from her work. She remained at home alone but without any thought of the impending birth of the child. When the child was born she was entirely alone and was beside herself with pain. She then caught up the knife and maintains she did not know until later that she had injured the baby. She furthermore states her lover had deceived her, having told her there was no possibility of her becoming pregnant. During her pregnancy she gave no thought to any such eventuality, but believed the cessation of her menses to have been due to having caught cold. The detective, Sergeant P., testifies that he questioned friends and acquaintances of L. M. and that none of them had had any idea that she was pregnant. Her associates in the house and her sister claim not to have noticed any change in L. M.'s appearance: even the day preceding the confinement L. M. had spoken to no one about her pregnancy. The previous day she had had a fall and she gave a severe headache as an excuse for her absence from work.

In the court proceedings on October 15th, L. M. maintained that she had been so confused by the pregnancy and by the birth of the child that she did not know what she was doing. She had had dreadful pains, which rendered her distracted and she then picked up the knife. What she had done with it she ascertained later. At no time had she any idea that she was pregnant, nor did she know whether the child was alive at any time or not. She had never gone to school. After listening to the testimony of the expert, Dr. O., who stated that the accused was mentally defective, the court determined to have the prisoner placed under observation in an institution and the undersigned was appointed to conduct a psychiatric examination and to report at the end of six weeks. As a result of this examination I now make the following report:

My examination of L. M. was begun on the 19th of October. She went into the ward of a hospital quietly, complying with all requests and submitting freely to examination. The physical examination gave the following results:

L. M. is one hundred and sixty-five centimeters tall and weighs sixty-one kilograms. Body temperature normal, bony frame, strong, musculature tense, nutrition fair, hands cool and moist. Measurements of the skull: Longitudinal diameter, 17.5 centimeters; transverse diameter, 13.5 centimeters; circumference, 53 centimeters. Face fairly symmetrical. Skull claimed to be somewhat sensitive to pressure and percussion. The external ears are well developed and ear lobes not adherent; mucous membranes somewhat pale, pupils of medium diameter, equal with well-rounded contours, reacting promptly to both light and fixation. The eyeballs are freely moved. The ocular fundus shows no pathological change; conjunctival reflex is present: facial musculature equably innervated. Teeth in good condition. Tongue protruded straight, not tremulous, and moist. Palate high, palatal arches equal, pharyngeal reflex easily obtainable, no tremor of the fingers, gross power of the extremities equal on both sides. The large nerve-trunks of arms and legs are claimed to be somewhat sensitive to pressure. The tendon reflexes of the upper extremities are easily obtainable. The mechanical irritability of the muscles is rather lively. The vasomotor lability (a red line after stroking) of the skin of the body is slow and of moderate intensity. Patellar reflexes are obtained

with difficulty. A foot jerk cannot be elicited, but toe reflexes are normal. A touch with a camel's-hair brush upon any part of the surface of the body is distinctly felt and properly located. A sharp instrument is clearly differentiated from a dull one: sensation to pain is normal. The musculature of the calf of both legs is claimed to be sensitive to pressure and is somewhat lax. Motility is free. Pulse seventy-eight, regular and strong. Heart's sounds clear. Lungs free from any process of disease. The abdomen is soft, can be palpated freely, but seems to be somewhat sensitive. The skin of the abdomen shows the striæ of recent pregnancy. There are no peculiarities of gait. The urine is free from pathological constituents. In response to questions, L. M. gave her name, age, place of birth and many other facts regarding her previous life, correctly. Further observation resulted as follows:

During the first few days of L. M.'s stay in the hospital, she was for the most part inactive. She aided a little in the work about the institution, but usually sat listlessly looking out of the window, occasionally turning the leaves of an illustrated magazine and appearing all in all mentally dull. Her mood was more or less equable, not depressed and rather indifferent. At times she even seemed to be contented, smiling when addressed and comprehending the questions that were put to her. For instance, when asked how she had slept, how she was getting along, etc., her reply always was "Very well." Asked what time it was, she promptly looked at the clock and gave the correct answer. At a subsequent examination made on October 22d, she appeared somewhat dejected, allowing her head to hang forward, but she responded willingly to questions asked. She said she had previously suffered a good deal from headaches, and that two days before the child-birth these headaches had been more severe. A long time ago, during the winter, she had slipped upon the sidewalk and had fallen, striking the back of her head. Without being questioned, she asserted that everything about her at that time had become dark and she could not see: nevertheless she had been able to go home unaided. Since that time she had suffered from headaches. She had been intimate twice with the father of her child. She was unable to state when she menstruated last; she had given no thought to the possibility of being pregnant, merely believing her menses to have been delayed.

Her abdomen, she said, had not been large enough to attract attention. She admitted having seen women who were pregnant and knowing that they were pregnant.

An attempt on October 26th to determine the amount of knowledge L. M. possessed revealed that she was able to count correctly from one to ten. She was unable to read from a written page, but on the other hand could read German print from a page of a book. Simple colors were designated by their correct name. Objects shown her were correctly recognized and named. An examination in geography and history revealed a total lack of knowledge of these branches.

In an examination held on November 6th she again positively maintained that she did not know she had been pregnant and said she arose in the morning, intending to go to work, but returned to bed because she felt sick, having pains in her head, abdomen and the rest of her body. She was unable to state accurately how long the labor lasted; she believed it was two to three hours. Abdominal pains had been present during the entire day. No one had aided her during the birth of the child. What she next did she could not recall. Afterward she saw the blood on the knife. Of what happened just before that she said she knew nothing. The knife was lying within reach upon the windowsill: it was not necessary to get out of bed in order to obtain it. The placenta came away the following day: she had lost a great deal of blood. After the birth of the child she had washed herself, then wrapped the child in a sackcloth and put it under the bed. She had told no one of her act because she was afraid. She did not know why she acted as she did. She had cleaned the knife and then put it back on the windowsill. The next day she got up and went to work. Meanwhile the body of the child was lying under the bed. Whether any one had noticed that she was no longer as large as previously she could not say: at any rate she had made no effort to conceal her change of form. The room in which she slept had been occupied also by her sister, another young girl, and a married couple. No one of these had noticed anything of the labor. L. M. persisted in maintaining that after committing the deed she became so frightened that she could not tell any one what had happened.

On November 13th, on being asked when she first realized that

she was pregnant, she answered emphatically, "I did not at any time think I was pregnant. Even when the labor pain set in I did not think of it." She again maintained that no one had called her attention to her enlarged abdomen or to her being pregnant; there had never been any talk regarding it. She had never felt any movements of the child. She well knew the cause for pregnancy, but her lover had assured her there was no possibility of such an occurrence in her case. The cessation of the menses, abdominal enlargement and her unusual sensations had all been attributed to other causes. Who had cut the cord or whether it had been torn apart she did not know, nor was she able to account for the presence of the knife upon the windowsill. It was only later she realized the child was dead, but she did not understand she had killed it until she noticed the blood upon the knife. She had done nothing to conceal the occurrence: nevertheless, even after the birth of the child, no one seemed to have noticed anything unusual, for no one questioned her in any way. The afterbirth she had thrown into a ditch the following day.

On the 17th of November she made the statement that some years ago, while at her own home, some time during the winter, she was going to the stable, when she slipped and fell, striking the back of her head. She had suffered much from headaches. The day before the birth of the child she fell from a wagon. She did not lose consciousness, but went to work as usual. No wounds of any kind had been observed. She believed, however, that the child was prematurely born as a result of this fall.

During the entire period of institutional observation L. M. was invariably quiet and modest in her demeanor. After becoming accustomed to her new surroundings she occupied herself industriously with housework. In the beginning of her stay she was somewhat shy when spoken to and seemed embarrassed, but was always polite and self-controlled. When her work was done she would sit quietly in a corner, turning the leaves of an illustrated periodical and looking out of the window. Her conduct toward nurses and other patients was always unassuming. Usually she remained by herself: later another patient took a fancy to her and instructed her in reading and writing. During such instruction she was attentive and learned easily. When the physician in attendance asked her to show what she had

learned, she appeared embarrassed, became shy and at first would not write in the presence of the doctor. After considerable coaxing, however, she would do as she was asked. Her emotional tone was usually an equable one, and occasionally apparently joyful. She smiled when she was addressed, and when inquiries were made concerning her health said she was doing very well. Only occasionally did she seem sad: in fact, whenever she was called into the examining room and questioned she seemed dejected; but she never manifested any pronounced depression. At odd times she was temporarily rather downcast and upon one occasion, after reading a letter from her sister, in which reference was made to their home, she shed tears. At another time when she was dejected, she attributed it to repentance for what she had done. Such states of depression never lasted for more than a few hours; toward the end of her stay in the institution they recurred with greater frequency. Only exceptionally had L. M. complained of any physical distress. According to the statement of her nurse she occasionally complained of slight headaches.

Upon another examination made on November 25th, the patient was well oriented, able to tell the day of the week, and said she was feeling very well. She stated that now she was always happy. Asked why, if this was so, she was occasionally found crying, she sighed deeply and replied it was a pity she had hurt the child; aside from this, she added, she had no reason for being unhappy. She admitted that in former times when at home she would occasionally take a drink of whiskey, but only infrequently.

Based upon the previous history and the *status præsens* of the case, my opinion is that L. M. at the present time is not insane. During the entire period of observation in the institution she has conducted herself in an orderly manner, has shown no disturbance of conceptual powers nor of attention, and no morbid emotional fluctuation. Her memory has revealed no material gaps with the exception of the one lapse she claims to have had, namely, the one covering the time of the birth of the child. As the patient never attended school and hardly knew the alphabet, it was most difficult to test her intellectual powers. Consequently we were obliged to form an opinion of her mental powers from her general comportment during her stay in the

institution and from the statements she made at the various medical examinations. Unfortunately very little information could be obtained from reliable witnesses in regard to the patient's mental state. The only testimony of value we possess is that given by her sister, who maintains that L. M. never showed any peculiarities of conduct. The only deduction that can be drawn from this statement is that no pronounced mental disorder could have existed.

Her comportment while in the institution shows us that in L. M. there exists no pronounced feeble-mindedness, no distinct failure of the mental faculties. She was not only quick in comprehending all questions asked her, but without hesitancy gave relevant replies. While we are warranted therefore in excluding the existence of any marked degree of feeble-mindedness, there are present in this patient certain traits which would make us consider her mentally different from a perfectly healthy individual. Especially noticeable is the fact that L. M. takes the grave accusation made against her rather lightly, and usually seems carefree; in fact, often even quite happy and contented. Any sorrow manifested by her seems to be due less to fear of possible punishment than to a longing for home and relatives. Moreover, her states of depression were very fugacious. Nevertheless, the impression made is not as though her apparent unconcern were the result of a moral decline, of an indifference to punishment, but to a lack of appreciation of right and wrong.

A factor of further import in examining the mental state of L. M. is her repeated assertion that she had not thought of the possibility of a pregnancy because the father of the child had assured her none could exist. We must consider as equally naïve her statement that she believed the cessation of her menstrual period to be due to an abdominal congestion. These statements, taken in conjunction with her invariable childlike manner and her equanimity regarding any impending punishment, must lead us to conclude that the patient was mentally not completely mature, but that her intellectual development had been arrested and had not progressed beyond a certain stage of childhood. But even assuming the existence of a certain mental immaturity, we are not warranted in believing all the statements made by L. M. Even an immature child will tell a falsehood to escape from some unpleasant predicament. If certain subse-

quent statements of the accused should prove to be inaccurate and untrustworthy, our general opinion regarding her personality would remain unaltered; on the other hand, we must admit that the immaturity of L. M. is not so great as to warrant the assumption of irresponsibility for her acts and conduct under ordinary conditions of life. In her present state of consciousness L. M. is certainly perfectly capable of recognizing the illegality and immorality of infanticide in general. On the other hand, the accused claims to have an entire lack of knowledge of her criminal deed. At all the judicial investigations, as well as at the various medical examinations, she has always maintained that she had been confused and benumbed by her pains, that she did not know what she had done and that it was only later that she noticed the mutilated body of the dead child.

A question to be answered, therefore, is whether any evidence exists that would prove the criminal act not to have been committed while the accused was in a state of pathologically disordered consciousness. Such twilight states, when present, most frequently exist upon an epileptic or hysterical basis. In this instance we have no indication justifying the assumption of the existence of epilepsy, nor have we any proof of the existence of hysteria. The only person who could give us any information in this regard is the sister of the accused, and she maintains that she never noticed anything peculiar about her. During the entire period of observation L. M. never made the impression of being an hysteric. We are not warranted, therefore, in assuming the existence of an hysterical twilight state. Nevertheless, in view of the fact that since the fall upon her head the patient suffers from frequent apparently causeless attacks of headache and dizziness, we are justified in attributing to her a neurotic predisposition. This assumption is borne out by our clinical observation, notwithstanding that the statements of the patient are not corroborated by any other evidence. Thus my first physical examination revealed a sensitiveness of the skull, of the nerve trunks and of the muscles, which did not make the impression of being simulated or exaggerated. Whether the accident, the fall from a wagon upon the day before the child was born, had exerted a deleterious influence upon this nervously predisposed individual cannot be determined with certainty. But even if we assume the existence of a certain neurotic predisposition, we

are not warranted in concluding that the patient was suffering from a mental disorder and an inhibition of free determination at the time of the commission of the deed.

Therefore, in the absence of all indications warranting the assumption of the existence of an epileptic or hysteric twilight state, we must determine whether disorders of consciousness may occur during parturition and be dependent upon this process alone in the absence of any other symptom of disease. This question should be answered affirmatively. That the physical exhaustion produced by labor pains, the concomitant loss of blood and circulatory disturbances in the maternal organism may all cause a certain alteration of psychic activity, must be perfectly evident. Moreover, it is also certain that the mental anguish to which an unmarried pregnant woman would be exposed as a result of her shame, fear and helpless situation, may have an additional influence upon her psychic state. Usually the alterations of psychic activity resulting from labor are not so intense as to produce any manifest clouding of consciousness. There are certain well-known individual exceptional cases, however, in which women who were previously entirely healthy were rendered unconscious by the pains of parturition; and occasional cases of transitory delirium produced by the same cause in women who were physically healthy have also been reported. The possibility of the occurrence of such transitory mental disorders will be admitted all the more freely when we recall that it is by no means unusual for states of mental confusion to be produced by severe psychic shock in persons who have previously been considered healthy. In the case of a parturient unmarried woman, however, the aforementioned factors of bodily exhaustion and physical pain are reinforced by those of mental distress.

Leaving these generalities and asking ourselves whether as a matter of fact the accused did suffer from a transitory state of confusion, we must acknowledge that a positive medical decision cannot be given. We have no witnesses who could give us any information regarding the condition of the accused at the time of the confinement. No judicial hearing could be instituted until five days afterward, and no medical examination until six weeks afterward. Therefore, in determining the mental state of L. M., at the time of the birth, we are dependent entirely upon her credibility. Such determination of credibility is essen-

tially a legal and not a medical question. Nevertheless, we are warranted in calling attention to the fact that none of the actions of the accused indicates simulation on her part, but that, on the contrary, in all examinations she has made the impression of being frank and perhaps even naïve. Moreover, we should not lose from sight the following considerations:

Confusional states occurring at the time of parturition are of great rarity in previously healthy women. Although L. M. does not suffer from any pronounced mental disorder, she cannot be said to be physically entirely normal, for we have already shown that there exists in the accused a slight nervous predisposition and a childlike nature, a certain mental immaturity and hence also probably a mild degree of enfeebled judgment.

Medical experience teaches that such deviations may easily constitute the basis for psychoses, particularly for transitory mental disturbances that arise in the train of external irritations, bodily as well as mental. This furnishes us with a firm groundwork for the assumption that the deed committed by L. M. may have been carried out in a state of pathologically altered consciousness. However, it is noteworthy that the statements of the accused at no time contradict one another. All her assertions, whether made during the proceedings in court, or during the individual medical examinations, agreed in all essential points.

While we would not be warranted in assuming that all her assertions are true because they have been the same on all occasions, yet it is remarkable that they bear no contradiction to each other in certain material points, and her description of her psychic state corresponds perfectly to a confusional state known to psychiatry. It is not at all probable that an uneducated and entirely immature person could, from her own consciousness, evolve a description of a typical form of disease. The fact that the accused became frightened after she had committed the deed and therefore concealed the body of the child and disposed of the afterbirth, notwithstanding that she may have considered her offense a pardonable one and notwithstanding that the deed had not been a premeditated one, are acts which in a person of a low order of intelligence should not astonish us. Nor does the statement of the accused that she felt remorse for what she had done preclude the assumption of mental disorder. It must indeed be considered remarkable that L. M. did not realize she

was pregnant when she noticed her increasing abdominal girth, particularly so in view of her admission that she was familiar with the appearance of pregnant women. On the other hand, it is possible that the changes in her form were not so marked and that L. M., credulous as she was, might not have attributed them to other causes. That these changes in form were not very noticeable may be assumed to have been the case, inasmuch as after her confinement no one seems to have observed any alteration in her figure. Moreover, so far as can be ascertained, the accused did not speak to any one concerning her pregnancy and certainly did not mention her impending confinement, not even to her sister. Apparently, also, she did not make the slightest preparation for the coming event, and she even worked about the house upon the day the baby was born. Furthermore, if we take into consideration the accident that occurred the day prior to the confinement we may assume that the birth of the child was unexpected.

Under such circumstances we can easily comprehend that L. M.'s emotional excitement, her sudden fear of things that were about to occur, her feeling of utter helplessness and desertedness, and her despair on account of her lover's deception should have been of the utmost intensity.

We will also understand that in the absence of any skilled attention, even if L. M. had hitherto been a person of good physical and mental health, without any neuropathic taint, her physical sufferings may have been so pronounced as to cause an acute mental disturbance. Finally, during the entire time L. M. was under observation she never gave any evidence of cruelty, cunning or ethical deficiency, so that purely psychological considerations would lead us to assume that her state of consciousness during the perpetration of the deed must have been an altered one.

In conclusion, in view of the difficulties the case presents, I would again emphasize the fact that a positive determination cannot be reached. While a consideration of all the points that have a bearing upon L. M.'s mental state forces us to the conclusion that she is not insane at the present time, it is quite possible, and even probable, that at the time she killed her new-born child she was in a state of confusion which precluded all free determination on her part. (Signed) Dr. N. N.

3. Theft Committed in a State of Paretic Mental Enfeeblement

The case of J. B., a coachman, 45 years of age, married, against whom criminal proceedings were pending on account of theft, was referred to the undersigned for an expert opinion. After repeated examination of the patient and a careful study of the case, it is my opinion that J. B., at the time of the commission of the deed, was in a disordered mental state, that for a long time he had been suffering from dementia paralytica, that no improvement in his condition is to be expected and that the mental disorder, which is dependent upon a progressive involvement of the central nervous system, at present annuls any voluntary determination on his part. This condition will continue to exist.

According to the judicial reports, J. B., according to his own admissions, committed various burglaries between the twenty-eighth of July and the ninth of September, 1911; other thefts of which he has been accused he denies having committed. He is able to give fairly complete information in regard to the thefts which he admits, but it is quite evident his orientation in regard to the time of the occurrences of these acts is very inaccurate. For instance, he is unable to give the sequence of these thefts and he does not know the location of the residences and stores that were burglarized by him. Moreover, he can give but very inadequate information concerning the objects he stole. Having been told that his statements in regard to the purloinment of a bicycle appeared improbable, because the date he had given did not accord with the date of the theft, he said: "I have said it was so because I assume that date to be correct. I cannot be more precise, I thought I was right." It was also noteworthy that he made no effort whatever to excuse his punishable acts. "I was without employment," he says, "and then a person wanders about and the idea came to me. I had no fear. I thought nothing about it. When I think of one thing I forget everything else."

The previous history of the case is as follows:

After a syphilitic infection in 1900 the patient in 1905 complained of attacks of dizziness and diplopia, but these were not followed by any serious disorder and, being of infrequent occurrence and short duration, apparently did not interfere in any

way with his feeling of health and his working capacity. In the spring of 1907 a state of irritable depression set in and this culminated in a suicidal attempt. The accused went to an out-of-the-way place with the intention of taking his own life, then temporarily gave up the idea and slept soundly in a lodging-house distant from his own home, but the following day he did make the premeditated suicidal attempt. These attendant circumstances in themselves would indicate the existence of some mental enfeeblement.

There are present, however, other evident signs of psychic defect associated with symptoms of disease of the central nervous system. J. B. had been under medical care and had been discharged as cured. A month after his discharge, however, he applied for readmission into a hospital, on the ground that he had traveled a long distance upon a trolley car without any definite purpose and without knowing where he was going. After being in the institution a month he refused to remain any longer, saying he was discontented and felt no better. Then followed a period of general fatigue, irritability and sleeplessness, during which he was unable to work. In July, 1908, he again undertook a senseless wandering, and much of what occurred at this time had entirely escaped from his memory. This incident alarmed him so that he sought readmission to the institution. After a short sojourn there, which brought improvement, he left of his own accord. He seems to have felt well thereafter and to have been able to work until May, 1909, when without reason he gave up a good position, obtained employment elsewhere and after a week returned to his former place, begging to be taken back. After that he worked in various places with success. Within two years, however, his condition had grown manifestly worse, and it was then that he committed the thefts which led to his being arrested while he was endeavoring to pawn some of the stolen goods. The accused seems to have a certain realization of his mental defect, and expresses this insight by the following words: "I no longer have the sense nor the memory I formerly had." Thus appropriately characterizing the decline that has taken place in his emotional and intellectual life.

His wife, describing the conduct of the accused during the months preceding his arrest, says her husband had been most irritable, had sought to seclude himself, was indifferent and slept

a great deal during the daytime, even when his sleep the previous night had been undisturbed. She had also noticed that he had become forgetful. Moreover, she had been told by a physician that her husband was very nervous.

J. B. could give but a most imperfect estimate of the length of time he had been under medical treatment, and he could not tell the age of his wife, nor the year of his marriage. His statements regarding his occupation were very uncertain and were made only after long reflection. His weakness of memory became evident when his knowledge of things acquired by rote was tested. Only after much thought and calculation could he tell how much six times eight or three times nine was. The most simple geographical and historical facts had escaped his memory. His answer to such questions was always: "I do not know; I knew it once, but I have forgotten it." His defect of memory, however, covers not only knowledge previously acquired, but things mentioned to him very recently. He was asked to repeat certain words, numbers, etc., and his attention was called to objects of various kinds, but after the lapse of a few moments he was unable to state what numbers and which objects had been mentioned. In addition he was but imperfectly oriented in regard to time, and particularly also in regard to simple conceptual associations. For instance, when asked to repeat a short, simple story, he related it in such a senseless manner that it was very plain he could not have understood the story at all. Likewise, when asked to deduce similarities and differences from any general concept, he failed completely; for instance, he could not explain the difference between a hill and a mountain, between a shrub and a tree, etc. Physically, a sluggish pupilary reaction to light, articulatory speech disorder and increased knee jerks could be demonstrated. His facial traits are lax. Upon the skin of the lower extremities his sensibility to pain was reduced. His handwriting was clumsy.

Summing up the facts derived from his previous history and from observation, it seems certain that J. B. committed his unlawful deeds while in a state of mental weakness which had existed prior to the commission of these deeds, which is still present and which will continue to increase. This mental weakness is caused by dementia paralytica, the characteristic symptoms of which are present. From medical experience we know that a

cure or even any permanent improvement is not to be expected. On the contrary, as the disease progresses the patient will become more and more demented. Individuals so afflicted may become a menace to themselves and to their surroundings, and for this reason I recommend that J. B. be placed under permanent supervision in some institution.

(Signed) Dr. N. N.

4. Felonious Assault During a State of Induced Insanity

On December 18th, a former janitor, G. K., seventy-nine years of age, and his unmarried daughter, A. K., both accused of felonious assault, were placed for observation in a psychopathic ward and the undersigned was requested to examine them and furnish an expert opinion regarding their mental state. Upon the basis of a study of their previous history and observation covering a period of six weeks, I have arrived at the opinion that the deed of which these persons are accused was committed while they were in a state of induced insanity, that G. K. and his daughter, A. K., suffer from ideas of persecution, and that at the time of the commission of the deed, at present and also for the future there appears to be no question of any free determination on their part.

From the history of this case we learn that G. K. and his daughter made an attack upon B. H., an inmate of the same house, while he was going upstairs. The father pinioned the victim's arms while his daughter struck him over the head with a club until his cries brought a number of people to his rescue and he was taken unconscious and bleeding to the hospital. The aggressors were arrested and taken to the police station. According to statements made by other inmates of the house, in which G. K. and his daughter had lived for a long time, they had shown such marked excitability as to arouse a suspicion that they were mentally unsound. In the police station, too, their conduct was such as to create a doubt as to their normal responsibility. The history of G. K. is as follows:

He is a widower and for a number of years has been living with his unmarried daughter, who keeps house for him. The anamnesis reveals nothing special pertaining to the occurrence

of psychoses or psycho-neuroses in the family. The man's mother died in childbirth and his father of old age. G. K. himself, born in Ireland, learned to walk at the proper time and had no convulsions or injuries of any kind. His former employers and his friends and acquaintances speak well of him, praising his conduct, his faithfulness, conscientiousness and stability of character.

Physically G. K. is a robust, white-haired man, strong and well nourished. He appears to be much younger than is actually the case. Aside from a moderate emphysema and bronchitis, physical examination reveals no disorder. There is no manifest arteriosclerosis of the peripheral vessels. The radial arteries are not tortuous and the pulse is of normal tension. The pupils are equal in size and react promptly. The patellar reflexes are easily obtainable; there is no Babinski and no Romberg. Cortico-motor and sensory apparatus show nothing unusual. Speech and handwriting are not disordered, nor does this latter reveal the existence of any tremor. Examination of the organs of special sense discloses merely a moderate degree of presbyopia and slight deafness. Physically G. K. is completely oriented in regard to place, time and persons and is able to recall each single happening that led to his arrest and to his transfer to the asylum. When received in the institution, as well as during the entire period of his stay, his behavior was perfectly peaceable and orderly. He is quiet at night. The occurrence of confusional states, even of a transitory nature, has never been noticed.

Questioned regarding his delusions and hallucinations, he makes statements which reveal the existence of a connected system of false beliefs and gives an account of persecution and intrigues to which he alleges he, and above all, his daughter, have been exposed, insisting with emphasis that B. H. is the originator of these persecutions. The cause to which he attributes them is a refusal on the part of his daughter to permit B. H. to take undue familiarities with her. Entirely spontaneously he asserts that it was his daughter who had called his attention to B. H. as being the person who had planned and started the persecutions and intrigues to which they both had been subjected. He maintains that B. H. has incited all the people in the house against him and his daughter and that a woman, Mrs. L., had called his daughter a common thing and said it was a shame to have such people in

the house: also that other people of the neighborhood were inimical to them and that these were disreputable persons who had been influenced by that man B. H. They had always looked askance upon him and his daughter, having accosted them in the street and called them vile names. The people living above them in the house had moved in for the sole purpose of annoying them by means of all kinds of noises, in order to force them to seek other quarters. B. H. had been absent from New York for a time and during this period there had been no annoyances. Then the persecutions began again. A number of persons had united in order to act against him and his daughter. He had heard two women talking about them in the house, he said, and although they mentioned no names he had known they referred to him and his daughter when they said, "For thirty dollars we can do that. You will get twenty and I will get ten." Charges of theft had been brought against his daughter, he added. All of the witnesses were perjurers with the exception of one girl, who told the truth and who for that reason was discharged from the position she held. The following quotations from his writings are characteristic:

"This man B. H. had annoyed me for two years at least, because my daughter would not entertain his insulting propositions. He has said he would give me no rest until I moved from the house. My daughter has been sick for two years on account of the continuous annoyances to which we have been subjected. Our letters are read aloud in the public streets, and a speaking tube or telephone has been installed in the third story above us in order that our conversations may be heard. Even the private conversations we had with our physician have been repeated on the streets."

Notwithstanding numerous assurances of the post-office authorities and the telephone people that his accusations were groundless, J. K. persisted in writing letters to both of these. Furthermore he says, "I also complained that letters belonging to me were put into boxes of other people, while letters not belonging to me were placed in my box. The letter carrier has assured me that he knows the name of the person who has committed these irregularities, but may not mention his name. I then told him no one else could have done these things but B. H. and I knew that he took the letters out of the box by means of a wire hook.

To this the letter carrier made no reply. My daughter had told me that whenever she goes out she is followed by private detectives and one of these she recognized as a person whom she had formerly known. Sometime ago, I sent my daughter to Mrs. T. in order to obtain some information: when she returned the forefinger of one of her hands was bleeding. Asked how this had happened she replied that when Mrs. T. shook hands with her she at once felt her finger pricked and then it began to bleed. This constitutes another proof of the persecutions to which my daughter is subjected. Furthermore I have often heard the children in the house speaking of "that beast," which, of course, could mean only me. I know positively that these children have been urged to do this by B. H. My daughter has also told me that B. H. notifies the police of her going out every time she leaves the house. Once upon opening the door of my dwelling I noticed the maid of B. H. standing in front of the door listening: she then rapidly walked upstairs and, turning around, put her tongue out at me. Another time we noticed a rope let down from B. H.'s apartment in front of our kitchen window in order that we might hang ourselves upon it. I have had B. H. followed and watched by detectives, but they have been unable to find any proof against him. In all probability he has bribed the detectives."

These extracts from G. K.'s writings will suffice. As a matter of fact he had engaged detectives and spent considerable money for such services.

A test of the intelligence of G. K. shows that he possesses a good school knowledge and that his store of memory pictures and their associative connections, as well as their sequence as to time, is well preserved. Questions regarding the recent past are correctly answered; his arithmetical knowledge is good; his multiplication, division and subtraction are rapid and correct. In so far as the special examination of his mental capabilities is concerned, no defect was revealed in a test of his attentiveness and particularly of the retroactive associations, the lack of which, according to present knowledge, would be characteristic of dementia senilis and dementia arteriosclerotica. A test of his memory, particularly for form and words associated in pairs, showed good results, even when a considerable interval was allowed to intervene. On the other hand, a test of his power of

combination showed a defect of judgment, although not of high degree. At any rate this defect of judgment is not so great as to warrant the deduction that a senile enfeeblement of mind exists.

In this case of G. K., therefore, we find upon the one hand a man who, having no hereditary taint, has remained bodily and mentally apparently healthy into an advanced age, has always shown himself orderly and quiet and then commits an act of violence; but who, upon the other hand, discloses a system of delusions of persecution and depreciation which have so distorted his relations to the outer world that he assumes the existence of conditions which as a matter of fact do not prevail.

Let us now take up the history of the girl. A. K. was born without the use of instruments, she passed through the ordinary diseases of childhood and never had any convulsions. When one year of age she sustained a fracture of the femur, but never had any noteworthy injury to her skull. The anamnesis given by her father, which must be received with caution, because he gave it, discloses that she developed well, was always cheerful and obedient, but was occasionally obstinate. After leaving school she took up dressmaking and earned her living by this means. In the year 1904 she lost her position, and since then has devoted herself to the care of her father's household, which she is said to have conducted in a thoroughly competent and careful manner. She went into society but very little, and her father had noticed that for four or five years she had been more or less of a recluse. The reason that she gave for this was that she did not wish people to make fun of her. Of late years she had complained of constant fatigue and had attributed it to the care she had given her sister during a prolonged illness.

Dr. S., who had been the family physician for a long time, makes the following statement regarding A. K.:

"As long as I have known her she has been uncompanionable and suspicious, always seeking some hidden meaning in every word and getting into constant friction with her associates and the people of the house. When her father felt in any way indisposed or when he complained of rheumatic pains, she would always accuse some one of purposely creating a draught by leaving a window or door open. In this way she always sought to hold some one else responsible for her father's sickness. She spoke

in a monotonous, disconnected manner, as though she would fall asleep in the middle of a sentence."

Dr. S. believes that during the last few years she was becoming increasingly childish and foolish. She conducted the household with care and attention, however, fulfilling all her father's wishes. She was always anæmic. From May until June, 1909, she suffered from severe angina and influenza and from that time on could not be induced to leave her bed. After a nurse had been placed in charge things went somewhat better: hardly had the nurse left, however, when she fell back into a state of apathy, and this was interrupted finally by the attack made upon B. H. At the end of July, 1909, it was determined to send her to a sanatorium, but she refused to go, and preferred to consult fortune tellers, Christian Scientists and hypnotists. Whether she suffered from delusions at that time cannot be determined. While in the observation ward of the hospital the following status was taken:

Patient is a small person, well nourished, but of somewhat anæmic appearance. Her facial expression is indifferent and apathetic. Her sensory and motor apparatus give no evidence of disorder. No hysterical stigmata, nothing special in regard to her internal organs. Patient lies in bed relaxed, showing no interest in her surroundings and does not alter her posture even when the physician approaches the bed. She extends her hand in greeting in an affected manner, merely touching the hand that is proffered her. Her replies to questions are given in a weak, monotonous and somewhat lachrymose voice. She is fully oriented in regard to place, time and persons. The statements she makes in regard to her previous life correspond accurately with the information that had been obtained from other people. Questioned in regard to her hallucinations she gives a description of the scandalous things that had been said about her and of the persecutions and intrigues to which she and her father had been subjected, employing about the same words that her father had previously used. She says people passing her house at night would stop and call her vile names. Once, while visiting a family living in the same house with her, she was given some coffee, and afterward she became nauseated and vomited throughout the entire night. People are listening on the telephone to everything she says, and she is being influenced by means of hypnotism and

electricity. In all the stores she is treated very badly and is obliged to pay higher prices for goods than any one else.

When I visited her on December 20th, 1909, A. K. lay apathetically in bed with eyes closed, as though she were asleep, but keeping the bedclothes away from her body with her hands. At times she was in a very lachrymose mood, yet always without the manifestation of any deep emotion. At one time she would complain of headaches, at another of pain in the stomach and then of sleeping poorly. Nevertheless she cannot be induced to take narcotics nor to have moist applications made to her abdomen. She also complains of being neglected and receiving no treatment, and complains particularly about her food, finding fault with one thing after another. Her actions are childish and foolish and she asks in an infantile voice, "How is my papa? Is my papa not yet dead? Is my papa still alive?" It is only with difficulty that she can be induced to leave her bed and go out of doors.

During the night of February 9th, 1910, she became very noisy, could not be kept in bed and gave evidence of great fear and anxiety. Asked about the cause of her fears, she said her father was to be killed, then that she was hearing voices of men, then again voices of women. She really could not say whether this was imaginary or real. Since she had been in this institution she had not been feeling so well. It seemed as though she were attached to the bed and could not get out even if she so desired. She heard voices telling her, "After two weeks you may go out again." It seemed as though the voices came from the hall. Probably she was being influenced by hypnotism, she said, but how this was done she did not know.

On February 19th, 1910, the patient complained of hearing constant voices indicating some one was shooting. She asked apprehensively who was being killed and whether her father was dead. She then threw herself upon the floor and kicked her legs like a little child. Having been induced to dress herself and to go out into the yard she at once began to undress in the open air.

On February 23rd, the patient did not react to any salutation or address. She lay in bed quietly as though asleep, but when some one was leaving the room she called in a foolish tone, "Is it true that my papa is still alive?" The following day the nurse reported that during the night A. K. had soiled her bed repeat-

edly. She was very restless, constantly moving about, saying a great misfortune had overtaken her and again complaining that she must die. When the nurse came to her later she did not budge and gave no answer. When her breakfast was brought she refused to eat it: when it was being taken away she hastily seized it, but did not eat. When the physician visited her she was at first taciturn and then began to complain, saying that she could not endure the voices. If she remained in bed, these voices called to her, "Why didn't you get up?" and when she got up they called, "Why don't you remain in bed?" Her excitement became greater and greater. She clung to the physician's arm and called despondently, "I have not insulted any one. I am here in my own bed. Why do you want me sent to prison for life?" She kept on asking, "What has happened? Who has been shooting? Is my father dead?" Gradually she became quieter.

The following day the patient was completely apathetic, refused all nourishment and had to be fed. She violently opposed any attempt that was made to have her use the bed pan. Then for days she lay immobile, with closed eyes, apathetically, in the old stereotyped position.

In a long written composition furnished by her father and bearing the date 1909 she described minutely and connectedly the persecutions to which she had been subjected and her description corresponded in every way with that given by her father. On account of negativistic conduct it was not possible to carry out an accurate intelligence test.

If the facts given in these two histories be now subjected to critical analysis, we find two persons, father and daughter, simultaneously brought into the observation ward of an insane asylum and accused of a criminal act, evidently committed while they were insane. The first question to be answered is, What relationship, if any, exists between the psychoses of father and daughter? Are we dealing with a disease which is accidentally contemporaneous and similar, or is there any causal connection between the two psychoses?

As far as the father is concerned we would first think of a primary chronic paranoia. This idea, however, is controverted by the advanced age of the patient. We know that his system of delusions did not set in acutely, but was created gradually as a result of his associational activities. But if we place the date of

the beginning of the psychosis back ten years, for at that time G. K. was undoubtedly mentally unaffected, we would still have an age, sixty-nine years, at which the occurrence of a paranoia is very improbable. From a differential diagnostic point of view we would then have to consider whether we might not be dealing with persecutory delusions occurring in the course of a senile dementia. Delusions of persecution as well as delusions of injury do occur during such senile mental enfeeblement and the patients then believe themselves to be robbed, slandered by their neighbors, etc. These delusions, however, are very sparse, confused and unrelated. Hardly ever is there a further elaboration of the delusions, a transformation of the contents of consciousness into hallucinations. This is explained by the fact that in old people the association processes in general are less mobile and extended.

In the previous history of G. K., therefore, and particularly in the results obtained from an intelligence test, there are absent all those symptoms which would warrant us in making a diagnosis of senile dementia and which would justify us in assuming the existence of senile persecutory delusions. The memory pictures, particularly those for the more recent past, are intact; neither the memory for recent events, nor the retroactive associations, whose early involvement is characteristic of senile mental enfeeblement, show any disorder whatsoever. The coherence of the conceptual processes is intact. On the other hand, a test of the patient's power of conception reveals a slight degree of weakness of judgment, which, however, does not warrant the assumption of a dementia. What we do see, and this is very important, is that this enfeeblement of judgment has produced an orderly and connected system of delusions. While the feeble-minded may construct a delusional edifice, the existing intelligence defect would prevent it from becoming systematized. Hence, senile dementia may also be excluded in G. K.

In going over the history of father and daughter, we are impressed by the fact that we have in this instance all the conditions necessary for the induction or transmission of a psychosis from one person to another. We have above all an extraordinarily intimate association between the two affected persons. Both have lived in almost complete seclusion from the outer world, thus becoming entirely dependent upon each other and

precluding that critical analysis through which erroneous ideas could have been corrected. Moreover, they had full opportunity to occupy themselves constantly with their own thoughts, to communicate them to each other, and thus to enable each to contribute to the delusional structure.

That their delusions were completely identical has been stated. It would be difficult to find a more pregnant sample of a *folie à deux*. If we consider further that the daughter occupies the center of the entire delusional system, and, as shown by the statement of the father, that few observations were made by himself, but almost all emanated from the daughter, we will have found the thread that connects the two psychoses, and without difficulty we will arrive at the conclusion that the daughter's delusional ideas became implanted, fixated and elaborated upon the moderate degree of senile enfeeblement of judgment that existed in the father.

That the daughter was first affected is shown by the previous history. Moreover, the symptom complex as manifested in her, particularly the lack of emotion, the stereotypy, the mannerisms, the foolish childish actions, must lead us to believe that in her there existed, possibly from puberty, a paranoid form of dementia præcox, but, of course, we find no external signs of this manifested in the father. It need hardly be stated that the transmission of a psychosis in its entirety from one person to another would be contrary to the teachings of all psychiatric experiences. The father, in consequence of his senile weakness of judgment, has adopted the delusion of the daughter.

It is, therefore, my opinion that the criminal act of which G. K. and his daughter, A. K., are accused, was committed under the influence of delusions of persecution, which existed at the time of the commission of the deed and which still exist. The prognosis in the case of the daughter is entirely unfavorable. In the case of the father it is doubtful. Both, being deprived of their free determination, should be placed under institutional care. (Signed) Dr. N. N.

5. Simulation of Insanity

G. R., 48 years of age, unmarried, barber by occupation, a resident of New York City, was arrested on the 5th of March.

While in prison his conduct was so extraordinary that doubt arose as to his responsibility. On April 3rd, the undersigned was requested to examine him and to report in regard to his condition.

My observations were spread over a period of six weeks. I now render my opinion that G. R., although degenerate and defective, committed the criminal acts of which he is accused while in a state of consciousness and without any disorder of mental activity which would exclude his free determination.

G. R. was born in Germany and was an illegitimate child. He came to America in his twenty-seventh year. We have but an inaccurate report regarding his family conditions and his early life, for we are dependent entirely upon his own assertions, and their trustworthiness is not great. According to his own statement he is hereditarily mentally tainted, inasmuch as a number of members of his family have been afflicted with mental disorder. His paternal grandfather is said to have been a drinker, his grandmother suffered from melancholia and committed suicide, and a brother of his mother, on account of religious differences, killed a girl to whom he was engaged. Another relative of his mother is said to have hanged himself during an attack of insanity; a sister of his mother is said to have been feeble-minded; his mother herself was an exceedingly excitable woman with whom it was very difficult to get along. The accused developed well physically and did not suffer from any noteworthy disease. When two years of age he received a blow on his head which left a scar that is still plainly visible but which produced no other disorder. He attended the public schools and is said to have learned well and easily. After leaving school he was apprenticed to a barber.

From that time until he emigrated to America he held various positions. He was excused from military service on account of his defective vision. According to his own statement his employers generally were satisfied with him in the beginning, but gradually became discontented because they exaggerated slight errors that he committed. He began to drink and, for this reason, finally lost his place. A probably more trustworthy explanation is given in the certificate he brought with him from the authorities in Germany, in which we read: "G. R. was active in many positions, in all of which he made a satisfactory beginning, but

after a short time was discharged on account of drunkenness and ensuing delinquency." G. R. himself states that at that time he drank not only when in company, but also a great deal when alone.

The police records show that while in a state of drunkenness he repeatedly committed acts of violence and infractions against property. Further inquiry in his own home shows that G. R. had been repeatedly punished and was known to the police as a careless, quarrelsome inebriate, who was constantly in debt and had repeatedly obtained money under false pretenses. For the latter offense he had once been sentenced to six weeks' imprisonment. He acknowledged the debt in all its details, but denied any false pretense in having obtained the money. Soon after his release he was again sent to prison for three months on account of swindling and a few months later was again accused of a similar offense. It would appear that for some years preceding his emigration he lived entirely by such schemes. In consequence of his distaste for work he earned little, but he always drank a great deal. When he could not meet his obligations he would promise to come back to his creditors the following day, but he actually disappeared never to show up again.

After these occurrences G. R. took steps to escape the consequences of his criminal acts by simulating insanity. In the prison cell he tore the bed coverings to pieces and when called to account he said, "At night a man always comes into my cell and gets into bed beside me. I can never get hold of him, otherwise I would have knocked him to pieces long ago." He sent a letter to the judge, in which he maintained that he was "mentally dead while his body could not keep pace with his spirit." His death, he added, was in some way connected with a cousin, who was living in America, and who had appointed him his successor in business, to go into effect when the necessary transformation in him should have taken place. His cousin, he wrote, wished to place himself in communication with him, and for this reason he begged the court to discharge him from prison. After the metamorphosis had been accomplished, he stated he would propose some social and religious reform by means of which many questions would be solved and permanent happiness be given to the world.

Under questioning, the prisoner expounded similar ideas and

claimed to have visions of various kinds, among others those of little black men with glowing eyes. During the medical examination he refused to sit down on the chair, saying he would be electrocuted if he did so. He characterized his experiences as extraordinary and hardly credible, but explained that he had satisfied himself of the actuality of his visions by throwing things at the objects he saw. He dated the commencement of the change that had taken place in him to a year before, saying that since then he had gradually lost his eyesight and his memory and had become mentally dull. It was about that time that the prison physician gave the following written opinion regarding the man's mental state:

"We must admit that the psychic picture presented by the patient at the time of examination conforms entirely with the typical picture of a well-justified mental disease which we designate as primary insanity or paranoia, and which is characterized in the main by the perceptual power of a person becoming affected and controlled by systematized delusions, so that the consciousness of self and of the surrounding world undergoes a complete falsification and displacement. Inasmuch as all this seems to have occurred in the accused, we must above all ask ourselves whether the picture of disease presented in this patient is actually a genuine one and whether the nonsensical assertions he makes must be looked upon as actual delusions. In so doing we must remember above all that while persons who endeavor to simulate any mental disorder usually conduct themselves in as remarkable and insane a manner as possible, G. R. on the contrary during the entire period of observation has behaved in a very quiet and unassuming way. As a matter of fact, he has always been quiet and composed and has never attempted to simulate a state of general mental confusion. He gives all information regarding his personality as well as regarding his antecedents perfectly correctly and accurately and always replies respectfully to all questions that do not touch upon his delusions; nor does he ever impose his delusions upon the people about him, but mentions them only when questioned or in his written productions.

"So far as these delusional concepts themselves are concerned, they do not manifest themselves as isolated formations, but clearly bear a causal relationship to sense deceptions of all kinds

and to abnormal sense perceptions, just as seems to be the rule in hallucinatory forms of insanity. Moreover, the fact that R. suffers from hallucinations and illusions in various sensory domains is corroborated by the experiences he claims to have had. We are furthermore able to follow the gradual development of R.'s originally purely sensory delusions into a general delusion of grandeur, which now proclaims itself in the shape of the most astonishing ideas for the improvement of the world. From the notion that he is already dead and now has entered upon a spiritual association with other spirits, the further delusion has undoubtedly developed in R. that he is perfectly able in his present state to see clearly the relationship and connection of all things and, therefore, should be able to reform all existing social and religious conditions.

"Hence, we see that in R. there has developed a perfect delusional system in which each delusion merely represents a link in a continuous chain. The simulation of such a picture seems hardly possible. If to all this be added the circumstances that R. undoubtedly comes from a psychically tainted family and for a long time has been a heavy drinker, we have sufficient facts to warrant us in assuming the existence in the accused of an actual mental disease and to determine our belief that he is not simulating. I, therefore, state my opinion that R. is actually suffering from a pathological disorder of mental activity (primary hallucinatory insanity), as a result of which his free determination has been annulled. From all the facts at my disposal, I would assume that the accused was insane at the time he committed the criminal acts."

I have considered it necessary to cite this opinion by the German investigator in full in order to show how even an experienced psychiatrist may be deceived by an adept trickster. As a rule the exposure of such simulation is not difficult. The premise for successful simulation is the wilful production of certain symptoms which, in their entirety, may represent concrete forms of mental disease. The knowledge of the intimate relationship between these manifestations of disease can be gained only through experience which the simulant usually does not possess. There are persons, however, who have often had opportunity carefully to observe the insane or who have acquired from books an intimate knowledge of insanity. These may prove exceptions

to the rule, but usually the picture of disease produced by the simulant does not correspond to any definite form of mental disease, but consists only of actions that to a layman would seem to be those of an insane person.

A healthy person attempting to copy a maniacal state will soon succumb to the fatigue connected with the permanent motor excitement, while the real maniac will not be at all conscious of fatigue. Or else the simulator, believing himself incapable of coping with the exertion necessary for acting the part of a maniac, may endeavor to simulate a stupor, not knowing that the accurate representation of such a state demands an indifference and lack of emotion that, notwithstanding the greatest self-control, it is practically impossible to counterfeit.

In a case of this sort the healthy person either overdoes or underdoes: he omits something that is necessary in order to complete an accurate picture of the disease or else, in order to appear insane, he exaggerates. The resulting inconsistencies will disclose the simulation. Occasionally, however, even the trained physician will become the dupe of an adroit simulator, of one who has understood how to play his rôle with dramatic talent and to adapt his actions to the altered state of consciousness that exists in the disease he is copying. Such deceptions may be explained by the fact that not all psychoses are associated with demonstrable physical changes by means of which psychic disease may be diagnosticated with certainty. Such physical changes (absence of reflexes, unequal pupils, etc.) cannot be simulated, of course, and when they are present there need be no suspicion of simulation. On the other hand, it is very possible that the physical examination will be a negative one, will give normal results, and nevertheless actual mental disease be present. To-day we well know that health and disease blend unnoticeably, one into the other, so no sharp demonstration between them can be made. The possibility must always be considered that the particular disease with which we are dealing cannot be grouped in a certain class. That fact alone, however, would not warrant us in assuming the disease to be a simulated one for, after all, we may be dealing with a disease which as yet we do not know how to classify. Hence, while a symptom complex that will not fit into the clinical picture of any known disease may appear to be decidedly artificial, actual disease may be present. Furthermore,

the majority of psychiatrists are agreed that mentally healthy persons very rarely become simulators while degenerates and inferior individuals have a marked tendency to simulation. In the latter, just as in children, the play of the imagination forces itself into the circle of actual happenings either transitorily or permanently—and falsifies the recollection of their actual personal experiences. The perceptual play, so to say, escapes the control of the simulator, and what in the beginning was conscious and purposeful deception under the liability of the consciousness of self, gradually becomes a pathological swindle and forms still another uninhibited impulse for deception. Then, of course, it never can be said with complete certainty just where conscious simulation ceases and where the morbid mental state of the simulant dominates.

I have gone into this detail in order to explain how even at the present time a trained observer may mistake a real psychosis for simulation, or on the contrary may take simulation to be an actual psychosis. In the above recorded opinion regarding the accused, G. R., the expert, following the psychiatric rules of procedure, has taken into consideration all the attendant circumstances and has paid particular attention to the entire personality of R. Nevertheless his opinion proved to be an erroneous one. As a result of this opinion R. was declared irresponsible, the proceedings against him were annulled and he was placed in an insane asylum. The examination in the institution revealed no physical disorders. R. was quiet and occupied himself in reading, complained a great deal of lonesomeness and in general expressed the same delusions. Nevertheless after a prolonged observation, the following conclusion was reached:

"R. is a drinker; so-called pathological states of drunkenness have not been observed; on the contrary, R. is very sly and wary and seems to be able to utilize conditions and persons well for his own advantage. It is very doubtful whether the delusions to which he gave expression and the paranoid hallucinations he claims to have had have actually existed."

In the course of time it became more and more apparent that R. was a degenerate chronic alcoholic, who simulated paranoia in order to evade regular work and that he might lead a comfortable life in the institution. He was then discharged from the asylum and soon afterward emigrated to America.

Here he worked assiduously for a time, but he frequently changed his occupation. He again began to drink, became needy, cheated landlords, swindled other persons and was sent to the penitentiary repeatedly in New York and other cities. He would work only when in the most dire need and when it became imperative for him to obtain money to satisfy his alcoholic wants. Ultimately he was employed as a janitor in a country house, the proprietor of which lived in New York. In the absence of the latter and his family, R. broke into certain living rooms to steal jewelry and other articles of value, but was arrested before he could dispose of them.

Physical examination of R. revealed: A man of medium height, well nourished, and of comparatively healthy appearance. With the exception of color blindness no physical signs of degeneration were present. The corneal reflexes were absent and the knee reflexes were difficult to obtain, due to the fact that R. would not relax, and it seemed as though he purposely avoided doing so. There was a slight tremor of the hands, and some tenderness of the large nerve trunks.

During the psychic examination R. was clear, collected and oriented. He showed good conceptual powers and gave information willingly and adroitly. He conversed freely with the people about him, was in good humor, told all kinds of jokes, played cards with pleasure, and read a great deal. Only at times, particularly at the end of the period of observation, was he depressed. Then he complained of being tired, would not occupy himself with anything and scolded about the physicians and attendants, and objected a great deal to the food. His appetite withal was excellent and his sleep almost always good.

From the antecedent history of the case and from the clinical observation we see that G. R. is undoubtedly a degenerate defective. While his capabilities were good and his accomplishments in the beginning were satisfactory, he never succeeded in achieving anything, because his interest and his assiduity consistently waned. He began to drink, neglected his work completely, was discharged, wandered from place to place and finally had recourse to swindling and deceit. In later life his instability and his inability to occupy himself permanently in any serious capacity notwithstanding his natural talent became even more apparent. As is so often the case in persons of weak will, he

continued to drink, and thereby became less capable of serious work. And the deeper he sank the more he lost insight into the fact that he really never had been able to accomplish anything. On the contrary, he became presumptuous and selfish. Withal he was very sensitive and easily took offense. He had attacks of violent anger when he was censured, but in a moment he was likely to become repentant and pray to be excused for his unworthy actions.

It is just this combination of weakness of will and unbounded self-esteem, associated with uncontrolled emotions and submissive conduct, that constitutes the typical symptom complex of a degenerate psychopathic personality, one that may be designated as unstable. On the physical side, as already stated, we find color blindness, a congenital defect not infrequently found in such individuals and one that has been classed among the so-called degenerative signs. Whether and to what extent the usual hereditary taint exists in this case we cannot determine, because our only history of the man is based on the statements of R. himself, and he naturally has an interest in being declared insane so he may escape imprisonment.

In this man, then, we find, during his first detention in 1893, a peculiar condition of excitement, in which he tore the bed covers and maintained he was dead and saw black figures about him. Following this he evolved all kinds of nonsensical ideas of a persecutory nature and gave expression to delusions of grandeur. which even today he repeats and to which he attributes all his criminal acts and particularly the theft of which he is now accused. At first R. was supposed to be insane and, therefore, he was not criminally prosecuted. Later it was suspected he had simulated insanity. This assumption was corroborated while he was under my observation. Special evidence in support of this opinion was the fact that the course of the supposed trouble in R. was by no means what we are accustomed to see clinically in chronic paranoia. In this disease there slowly develops a permanent and unalterable delusional system which inevitably leans to a decisive transformation of the person's entire view of life, to a transposal of the attitude which the patient necessarily maintains toward persons and objects. It is precisely upon the absence of this last characteristic in R. that we would lay special emphasis. Instead of suspicion and reticence, we find in him

subservient politeness and an endeavor to make as favorable an impression as possible. We see him behaving like a normal person, his actions having no relationship whatsoever to the ideas of persecution he claims to have. Notwithstanding his claim that he is constantly being annoyed he is neither suspicious nor irritable, but, on the contrary, is always polite, markedly friendly and often even obsequious. As soon as he feels at home in any new surroundings his comportment becomes impertinent and at times openly brutal. But even then he never includes the person whom he accused of being inimical to him in his delusional system nor does he delusionally interpret that person's comportment in the way a real paranoiac would. While the true paranoiac thinks only of the means by which he can escape his annoyers and of the methods that will aid him to oppose them and hence looks upon everything with suspicion and interprets the most innocent conduct as being directed towards himself, we find R. in a state of complete confidence toward those surrounding him. He occupies himself remarkably little with his ideas of persecution and the main aim of his activities seems to be his own personal interest. In order to attain his object he seeks the favor of the physician in a most subservient manner, acting as a paranoiac would never act. On the contrary, the attitude of the paranoiac will be one of marked reticence and superiority, due entirely to his exalted self-consciousness and to the grandiose ideas which are directly linked with his ideas of persecution.

Upon the one hand we find in R. a total absence of mutual relationship between the supposed delusions and upon the other, a lack of any transformation of personality in the sense of the delusion. Those very points, therefore, which are essential to and characteristic of true paranoia are wanting.

In addition the entire course of the disorder in R. does not correspond to what we are accustomed to find in paranoia. This affection, we know, sets in very slowly and insidiously, progresses steadily and gradually gains more and more ascendancy until it embraces everything with which the patient is surrounded. In R., however, we find the disease beginning with a peculiar state of excitement, with numerous visions, illusions and the notion of being dead, the onset of ideas of persecution coming afterward. Then, instead of a slow development and a steady increase of the disease, we find after a few months that complete recovery has

taken place. This so-called mental disorder, strange to say, recurs whenever it seems opportune for R. to have it do so.

It must, therefore, be plain that R. cannot be suffering from a chronic paranoia. But if not from paranoia, from what psychosis does he suffer? By way of answer to this question we should consider primarily the paranoid form of dementia præcox. This affection may produce symptoms similar to those which have been observed in R.; and yet we must admit that this disease usually leads within a few years to a peculiar feeble-minded state. This should certainly be present in R. if he had been suffering from dementia præcox paranoidea for the last twenty years.

There still remains for our consideration one other form of mental disorder which runs its course much as did the disease which R. appears to have. This is known as hallucinosis of alcoholics. That R. was a heavy drinker is clearly shown by the official records that alcoholic addiction had existed for a long time prior to the onset of the mental disorder. While a sudden beginning is nothing unusual in this disease, yet the state of excitement and the notion of being dead that existed do not at all fit into the picture of this affection. True, the visual deceptions which the patient claims to have had may occur in this form of alcoholic mental disorder. Of much more weight, however, is the fact that the characteristic symptoms of alcoholic hallucinosis, more especially the numerous vivid auditory deceptions that bear a persecutory aspect and often cause the patient to attempt self-destruction on account of fear, are absent. An alcoholic hallucinosis, therefore, must also be excluded.

Now, if we gather all the facts and consider particularly that the manifestations of disease become apparent in R. only when it is to his advantage to have them do so, but disappear as soon as they are of no further service to him, we cannot avoid the conclusions that R. has acted in accordance with a well-considered plan and that all his so-called notions of persecution are not dependent upon any mental disorder, but are simulated. R. has been able to support himself only in a most precarious way, often coming into conflict with the criminal law and preferring a sojourn in an asylum to the prison cell. This probably explains everything.

My opinion, therefore, is that R., although a degenerate and inferior individual, has at no time suffered, nor does he at pres-

ent suffer, from any pathological disturbance of mental activity in consequence of which his voluntary determination has been excluded. Whether the existence of mitigated responsibility is to be assumed must remain a matter for the court to decide.

(Signed) Dr. N. N.

5. Commitment to an Asylum on Account of Being a Public Menace

The undersigned was requested on March 18th, 19—, by C. H., a dealer of books in the City of New York, to examine into the mental condition of his son, F. H., 22 years of age, a student at Columbia University, who for some time had been acting in a peculiar manner and who had planned to kill his entire family. After a prolonged examination and observation I have been able to determine that F. H. suffers from delusions of persecution which abolish his free determination. In consideration of the existing state of affairs and in view of all psychiatric experience, we must assume that F. H. will carry out his plan if he gets the opportunity. It would be most dangerous to leave an irresponsible person in freedom so long as he is dominated by delusions of persecution which in any unguarded moment would lead him to commit an act of violence. It is my opinion that as F. H. is suffering from so dangerous a psychosis he should, for his own protection as well as that of those surrounding him, be committed to an institution.

In support of this opinion I will first adduce from the patient's family history such facts as I have been able to ascertain. The father, C. H., is a highly cultured and talented man, who, since the death of his wife three years ago, has been suffering from depression and has at various times given utterance to suicidal ideas. A brother of the father has attempted suicide. A distant relative was insane. Other members of the family are said to have suffered from various nervous disorders. F. H. himself was the seventh of thirteen children, three of whom died in infancy. He developed apparently normally. His teachers characterize him as assiduous, upright and conscientious. Under the training of his very religious mother, the boy developed introspective traits which tended to make him look upon slight fail-

ings or harmless excursions as a great sin. He was very musical and a lover of all kinds of sports.

A remarkable trait from the very beginning was his extreme secludedness. At all times he seems to be depressed. He never jokes or laughs with his comrades and has no close friends. During the last years in school, according to his own statements, he masturbated continually. Similarly, during his period in college he was more or less "shut in" and made a melancholic impression. One of the professors who had visited him in his home had remarked upon the touching tenderness the youth always showed toward his father. This professor looked upon F. H. as an extraordinarily good and dependable man, but he considered him peculiar, slow in thought, though clear and logical, severe in his opinion of himself, but lenient toward the weaknesses of people.

About two years ago, contrary to his former religious manner of thought, he wrote letters of a most depressive nature to his mother's sister, full of self-accusations, in which he emphasized that his entire life was directly antagonistic to God and religion. He was embittered and knew he could never be otherwise. He was deeply unhappy because his life seemed to be a failure. The slightest mental work proved an exertion. He maintained that the satisfaction of his excessive sensual ideas (onanism) had exhausted him bodily and mentally, so that it was perfectly immaterial to him whether he was considered a good or a bad person. It was his desire to become even more depraved. The thought of God did not in any way influence him. He prayed to the devil each day, begging him to suppress every noble thought he might have until whatever the devil had ordained should have been accomplished. According to F. H.'s own assertions, his anger against God had constantly increased. In order to annoy God he had masturbated excessively, and then the thought came to him to cause God still more sorrow by some horrible deed. It was his intention in committing this deed to bring death also to himself. Knowing that his father was greatly worried about the other children and had had suicidal ideas, the patient became more and more convinced that the death of his father would be nothing terrible, but, on the contrary, would signify his liberation from all suffering. Inasmuch, however, as the death of his father would cause his brothers and sisters great sorrow and would

deprive them of their protector, F. H. considered it proper not to allow the father to die alone. In the beginning the patient claimed to have been conscience-stricken; but gradually his scruples were overcome by the thought that his father and his brothers and sisters, through death, would find entrance into heaven. It was his sole desire to kill all of them and then to commit suicide so he might receive just punishment by being relegated to Hell.

Another noteworthy feature was the fact that he repeatedly interrupted his studies and undertook travels without apparent motive or object. One of his class acquaintances maintained the patient had made upon him an unsteady restless impression, acting as though he had a bad conscience. That he had actually determined upon the death of the entire family is shown by the excitement which overtook him when a loaded revolver which he had secretly purchased and concealed was taken from him.

F. H. is a medium-sized, ill-nourished man; he suffers from pronounced sleeplessness and frequently refuses to take food. The measurements of the skull and an examination of the internal organs reveal no abnormality. The patient maintains he has never taken any alcohol and that he has never had any sexual connection. He claims that a year ago he gave up the masturbation he formerly practised. No defects of sensory organs are demonstrable. The pupils react promptly to light and accommodation, but the patellar reflexes are sluggish. The patient is well-oriented in regard to time and place. His memory for recent events is markedly restricted, inasmuch as names, figures and objects to which his attention has been called are usually forgotten by him within a half hour. On the other hand he is able to recall occurrences from his previous life with a marked degree of accuracy. Intelligence tests enable us to recognize the presence of a mild degree of mental enfeeblement. Whereas until five years ago he was looked upon as a model pupil, he has more recently remained far behind his associates in his college work. Most noticeable is his marked emotional indifference, his lack of the natural manifestations of pleasure or displeasure. The ideas of persecution from which F. H. suffers seem to be dependent upon auditory hallucinations. From things he believes to have heard, he has learned that the entire world is inimical to him and to his family. He sees no other

means of escape from the destruction that his enemies have prepared for him than flight into another world. Nor is there any other means of salvation for his family, and for this reason he must take them with him. At times he becomes conscience-stricken, and in this state he unfolds his innermost thoughts. Then he says he has no more use for God because God has not protected him against the persecutions and the injustice to which he has been subjected.

During the examination it was often difficult to get the patient to express himself at all. He anxiously concealed his thoughts. Sometimes he seems to be listening to inaudible voices; at other times he seems to have the need of expressing himself freely, and then he acknowledges that he received the command to murder the entire family.

Summing up, we find the picture of an hereditarily tainted young man, who is evidently suffering from the paranoid form of dementia præcox. F. H. has always been peculiar. No one was astonished when he did extraordinary things. First, the depressed letters that he wrote to his aunt attracted attention, then followed the foolish self-accusations and the break with religion. F. H. believed God had deserted him and turned him over to his enemies. It was his desire to grieve God by some dreadful deed. Moreover, it was his idea that by killing his father and his sisters he would free them from further troubles and sorrow. He asserts that the devil dominates him and constantly urges him to take himself and his family out of the world. It is perfectly clear that a person acting from such motives will be most reticent concerning his proposed act. His plans, however, are unfolded in one of his letters, in which he writes that his only prayer is that the devil may suppress every good trait he may have until he has carried out what he must do. Occasionally his conscience worries him, and he then lays bare his inner self. At such times he has repeatedly said he must kill the entire family in order to save them from misfortune. The excessive masturbation, by means of which the patient, according to his own statement, would still further insult God, no doubt has produced a state of marked exhaustion. Nevertheless the onanism must be looked upon not as a cause but as a result of the disease from which he is suffering. The question, then, is whether a psychopathically tainted individual who is

run down from constant masturbation, who is mentally and emotionally dull, who suffers from auditory hallucinations and delusions, but who up to the present time has not committed any punishable act, may be considered a public menace, whether, in other words, the patient, if allowed his liberty, would carry out the purpose he had expressed. This question must be answered affirmatively.

In general we must regard as a public menace all individuals whose psychic irregularities would lead us with reasonable certainty to expect that they could live unguarded without coming into conflict with the criminal law or without doing injury to themselves. Patients suffering from mental disease are a public menace, if for no other reason because they are deprived of their power of voluntary determination, and through false notions or imperative impulses are urged to commit detrimental deeds. It is entirely erroneous to believe that the feeble-minded are always harmless. It has often been shown that very slight provocation may be the cause for a weak-minded individual to commit a dangerous crime such as incendiarism, onslaught upon persons, or even murder. The feeble-minded of light and of severe degree and the majority of mental defectives should be judged not according to their mental state but also, just as ordinary criminals, by the motives that govern them. When a feeble-minded person is depressed and suffers from delusions, it is quite evident that under the sway of hallucinatory influence he may conceive and carry out the idea of committing some pernicious act. Of course, it can never be proven with certainty that every insane person who is not committed to an institution will commit a criminal act. But it would be an exceedingly dangerous procedure to defer a commitment until some calamity had taken place.

Very often individuals who are depressed will commit both murder and suicide. Their first thought is of their own death; then they think of the relatives who love them and who they believe could not live without them, and they determine to take them along. Every psychiatrist knows that melancholiacs are dangerous because they carefully consider and plan their acts. Planning of this sort is shown in F. H. because of his secret purchase and concealment of a revolver. Most dangerous of all are those patients who hear voices which command them to com-

mit a certain deed. In them the explosion may come entirely without warning. More frequent are the instances in which the voices do not command, but tell the patient to protect himself against his enemies. When this happens the patients as a rule communicate their delusional ideas to their relatives, as was done by F. H. When the ideas of persecution are extremely intense or are accompanied by sense deceptions they may readily lead to an explosion. In many instances, the patients, before taking extreme measures, will try everything else in order to rid themselves of their supposed prosecutors or to protect themselves against them. Very often we will find them changing their residences, and probably the senseless travels of F. H. had been undertaken for this purpose, the patient hoping thus to escape the persons and the annoying voices that followed him. Where the patients are unable to rid themselves of their persecutors in a safe manner they take recourse to an attempt at suicide and to threats against people about them. This not availing, they take the most extreme measures. This is what we would expect to happen in the case of F. H.

In endeavoring to determine the mental condition and responsibility of a person who as yet has committed no crime, the expert can only say what will probably take place. I cannot unreservedly maintain that F. H., if he is not committed to an institution, will carry out the family murder he has planned, but I must emphasize the fact that in similar cases, in which no attention has been paid to the delusions and the threats of the patients, acts of great violence have been committed. It is not reasonable to assume that the actions of F. H. will be different from those of other insane individuals who suffer from depression and who, under the influence of ideas of persecution, commit murder or suicide at the first opportunity.

It is my opinion that F. H. is insane and is deprived of his free determination, and that the nature of his psychosis would lead us to expect an outbreak of violence at any time. Therefore, in order that the patient and his surroundings may be protected from injury, I advise that he be committed to an institution until his delusions have entirely passed away.

(Signed) Dr. N. N.

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